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R E V E R I E S,
O R
M E M O I R S
UPON THE
A R T OF W A R
BY *Moritz, of Saxony*
Field-Marshal COUNT S A X E.

Illustrated with Copper-plates.

To which are added

Some original LETTERS, upon various MILITARY
SUBJECTS, wrote by the COUNT to the late KING of
POLAND, and M. DE FOLARD, which were never before
made publick:

Together with

His REFLECTIONS upon the PROPAGATION of
the HUMAN SPECIES.

Translated from the FRENCH.

*Ad priscam illam, ac ROMANAM maximè militiam flecte; cum cujus dilectu, disci-
plinâ, ordine, si nostra hæc novitia arma jungantur, quæ vis aut acies resistat?*

LIPSIUS.

L O N D O N :

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M DCC LVII.

REVIEWS

MEMOIRS

OF THE

WAR



LONDON

**TO THE
GENERAL OFFICERS.**

GENTLEMEN,

THIS work, which I have the honour to inscribe to You, being the production of so illustrious an author, cannot fail, I presume, of meeting with a favourable reception. To whom could it be addressed with so much propriety, as to You,
for

DEDICATION.

for whose use it was originally undertaken? Accept of it therefore as your right, which I have only taken upon me to restore to You in your own language.

I am with the greatest respect,

GENTLEMEN,



Your most obedient Servant,

THE TRANSLATOR.

P R E F A C E.

WAR is a science so obscure and imperfect, that, in general, no rules of conduct can be given in it, which are reducible to absolute certainties; custom and prejudice, confirmed by ignorance, are its sole foundation and support.

All other sciences are established upon fixed principles, and rules *, while this alone remains destitute; and so far from meeting with any thing fundamental amongst the celebrated Captains, who have wrote upon this subject, we find their works not only altogether deficient in that respect, but, at the same time, so intricate and indigested, that it requires very great parts, as well as application, to be able to understand them: nor is it possible to form any judgment upon history, where every thing on this head, is totally the product of caprice and imagination.

The mechanical part of war is insipid and tedious in description; of which the great Captains being sensible, they have studied to be rather agreeable, than instructive, in their

* War has certain rules and fixed methods of practice, but they are such only as retail to the *detail*, or inferior branches, and do not extend to the sublime, which, it must be understood, the author means in this place.

writings upon the subject : the few books which treat of war, as an art, and that furnish us with any principles, are but in small esteem ; and cannot be allowed their due merit, till time has subverted the present system ; while those which treat of it in the historical way, meet with a general good reception ; to the prevalence of this taste it has been owing, that we have even now but a confused idea of the Greek and Roman discipline.

Gustavus Adolphus invented a method which was followed by his scholars, and carried into execution with great success ; but since his time, there has been a gradual decline amongst us ; which must be imputed to our having blindly adopted maxims, without any examination of the principles on which they were founded ; from whence proceeds that confusion of customs, where every one has assumed the privilege of adding, or diminishing at pleasure.——Nevertheless these customs still remain in repute, on account of their illustrious origin ; but, in reading *Montecuculi*, who was cotemporary with *Gustavus*, and is the only General, who entered into any detail, it is very evident, that we have already departed more from his system, than he did from that of the Romans ; from whence it appears, that our present practice is nothing more than a passive compliance with received customs, the grounds of which we are absolute strangers to.

The *Chevalier Folard* was the first who had spirit enough to pass the bounds of popular prejudice, and I honour him
for

for the example; nothing is so disgraceful as that slavish adherence to custom, which prevails at present; and which, as I have already observed, proceeds only from ignorance: yet he goes too far, and advances an opinion, which he pronounces infallible, without reflecting, that the success of it must depend upon an infinite number of circumstances, which it is denied the power of human prudence to foresee: he supposes men to be the same at all times, and does not consider that bravery is a variable and uncertain quality of the mind; and that the chief excellence of a General consists in address to establish it in his troops, by an artful choice of dispositions, and situations; and by those peculiar strokes of genius, adapted to occasion, which characterise the great Captains: perhaps indeed he purposely reserved to himself his reflections on this head, or perhaps it altogether escaped him; however, there is no part of the military system, which deserves so much study and attention.—The same troops may be defeated, even in intrenchments, which, if they were to begin the attack, would be victorious; an instance which few have accounted for in any reasonable manner, but which can be only ascribed to the weakness and imperfections incident to human nature: no person has as yet treated of this matter, which is of the utmost importance in war, and demands our particular regard and application, for otherwise we leave all events to the decision of Fortune, who is sometimes very uncertain in the disposal of her favours: I shall only make use of one example, amongst a thousand, to enforce my opinion concerning this frailty of the human heart.

After

After the *French* infantry, at the battle of *Friedlingen*, had repulsed the *Imperialists* with unparallel'd fortitude; had totally routed, and pursued them through a wood into a plain which lay on the other side, some one, upon the appearance of two squadrons, (which might be *French* for any thing that was known to the contrary) cried out, *We are cut off!* upon which these victorious troops instantly abandoned their triumphs, and took to flight in the most dreadful confusion, without being either attacked, or pursued by a single person; repass'd the wood with the utmost precipitation, and never once halted till they had got beyond the field of battle; Marshal *Villars*, together with the Generals of the army, took all possible pains to rally them, but to no purpose; and yet the victory had not only been gained, but rendered at the same time so complete, that no part of the enemy attempted to make the least appearance afterwards: nevertheless we find, that those men, who in one moment had discovered such amazing intrepidity, were the same, whose fears, the next, betrayed them to a shameful flight: the Marshal himself related this fact to me at *Vaux-villars*, when he was shewing me the plans of his battles; and whoever has curiosity enough, to search for more examples of this nature, may meet with numbers in the history of all nations; this however is, at present, sufficient, to prove the instability of the human heart, and how little we ought, consistently with prudence, to depend upon it. — But before I enlarge too much upon the sublime parts of war, it will be necessary to treat of the minute, by which I mean, the
prin-

principles of the art.——Notwithstanding it is usual for those who have confined their studies to the *detail*, to be accounted persons of shallow capacities; yet it is a branch, which appears to me very essential, as it constitutes the foundation of a science; and as it is impossible to erect any edifice, or to establish any system, without being first acquainted with the principles that must necessarily support it; which observation the following comparison will serve to illustrate: A person who has a taste for architecture, and can design, will draw the plan of a palace with great correctness; but if he is obliged to execute it, and is, at the same time, ignorant of the method of shaping his materials, and laying his foundation, the whole fabrick must presently fall to ruin.——It is the same with a General, who is unacquainted with the rudiments of his profession, and the manner of forming his troops, which are qualifications indispensable in the execution of all warlike operations: the remarkable victories which the Romans constantly gained with small armies, over multitudes of Barbarians, can be attributed to nothing but the excellent composition of their troops: not that I would from hence infer, that a man of enterprise and genius will not be able to make some figure, even at the head of an army of Tartars; as it is much easier to take men as they are, than to make them what they ought to be; and no task being more arduous, than that of reconciling the different opinions, prejudices and passions, to which they are subject.

I shall

I shall begin with directions relative to the manner of raising troops, of clothing, subsisting, exercising, and forming them for action: to say that the present system of practice, is totally useless and absurd, will appear a very presumptuous assertion, at a time when the power of *custom* is grown so absolute, that, to depart from it, is become a crime; it is, however, a more excusable one, than to introduce innovations: I declare therefore, that my sole view and intent in the following sheets, is to expose the errors into which we are fallen.



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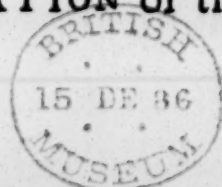
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C H A P-



CHAPTER I.

ART. I. Of raising Troops. 2. Of clothing them. 3. Of subsisting them. 4. Of paying them. 5. Of exercising them. 6. Of forming them for Action.

ARTICLE I.

Of raising Troops.

TROOPS are raised either by voluntary engagement, or by capitulation; sometimes too by compulsion, but most commonly by artifice.

When you recruit men by capitulation, it is barbarous as well as unjust to recede from it; they being free at the time of their contracting themselves, it becomes contrary to all laws, both divine and human, not to fulfil the promises made to them, their dependance upon which, was what alone induced them to accede to the obligation: neither is the service benefited by those unlawful proceedings, for sensible of the hardship imposed upon them, they seize the first opportunity to leave it; and can one, after having first cancelled all engagements by a breach of faith, proceed afterwards against them, with any degree of justice, for the crime of desertion? Nevertheless, severe examples are sometimes necessary for the support of good discipline, although in the execution they are attended with an appearance of cruelty; but concerning the grievance of which I am speaking, as there are many soldiers in the beginning of a campaign, whose time of service is expired, the captains, desirous to keep their companies complete, detain them by force, which is the occasion of it.

The method of raising troops by artifice, is likewise altogether scandalous and unwarrantable; such, amongst other instances, as that of secretly putting money into a man's pocket, and afterwards challenging him for a soldier.—That of raising them by compulsion, is still more so; it creates a general ravage, from which there is no exemption of person, but by force of money, and is founded upon the most unjustifiable principles.

Would it not be much better to establish a law, obliging men of all conditions in life, to serve their king and country for the space of 5 years? A law, which could not reasonably be objected against, as it is both natural and just for people to be engaged in the defence of that state of which they constitute a part; and, in choosing them between the years of 20 and 30, no manner of inconvenience can possibly be the result; for those are years devoted, as it were, to libertinism; which are spent in adventures and travels, and, in general, productive of but small comfort to parents.—An expedient of this kind, could not come under the denomination of a publick calamity, because every man, at the expiration of his 5 years service, would be discharged: it would also create an inexhaustible fund of good recruits, and such as would not be subject to desertion.—In course of time, every one would regard it as an honor rather than a duty, to perform his task; but, to produce this effect upon a people, it is necessary that no sort of distinction should be admitted, no rank or degree whatsoever excluded, and the nobles and rich rendered, in a principal manner, subservient to it: this would effectually prevent all murmur and repining, for those who had served their time, would look upon such, as betrayed any reluctance, or dissatisfaction at it, with contempt; by which means, the grievance would vanish insensibly, and every man at length esteem it an honor to serve his term: the poor would be comforted by the example of the rich; and the rich could not with decency complain, seeing themselves on a footing with the nobles.

War is moreover an honorable profession; how many princes have voluntarily condescended to carry arms? And how many officers have I seen serve in the ranks after a reduction, rather than submit to live in a state of indolence and inactivity? Nothing therefore but effeminacy can make a law of this kind appear hard or oppressive.

If we take a survey of all nations, what a spectacle do they present to us? We behold some men rich, indolent and voluptuous, whose happiness is produced by a multitude of others, who are employed in flattering their passions; and who subsist only, by preparing for them a constant succession of new pleasures: the assemblage of these distinct classes of men, oppressors, and oppressed, forms what is called society; the refuse of which is collected, to compose the soldiery: but such measures, and such men, are far different from those, by means of which the Romans conquered the universe.—Nevertheless all things have a good as well as a bad side; and tho' it is certain, that nothing contributes so much to the goodness of an army, as obliging the provinces to recruit it, yet one great inconvenience results from it; that of the officers neglecting, and taking no care of the soldiers; I have almost always observed that a large half, and sometimes three fourths of the Imperial armies were composed of recruits; which can proceed from nothing but the little regard paid by the officers to the health and preservation of their men; if they contract any disorders, they are suffered to perish for want of proper assistance, because it is attended with some expence.

The remedy to this evil is very simple, being nothing more than to oblige the officers to pay the recruits: I would have the provinces still furnish them, but the recruiting cash should be put into the stock-purse, and the officers, as I before observed, subsist them; which would be attended with a double advantage, in being the means to preserve both men and money; for suppose an army wanted 20000 to complete, and the captains were obliged to pay 50 livres for every man, there would conse-

quently be a saving of a million, and the men, at the same time, be much better taken care of, than they are at present.

This method of raising troops, is very well calculated for all countries, like France, which are well peopled, and able to furnish their own armies, without introducing foreigners: and those states which are forced to recruit amongst other nations, might at the same time establish a militia upon this plan; but, as they are subject to the necessity of having a great part of their army composed of foreigners, they become obliged, in a much greater degree, to keep sacred their agreement, or capitulation with them, than with their own subjects, because it is a means to facilitate the raising of them.

A R T I C L E 2.

Of clothing Troops.

Our dress is not only expensive, but inconvenient, no part of it being made to answer the end required: the love of appearance prevails over the regard due to health, which is one of the grand points demanding our attention.

In the field, the hair is a filthy ornament for a soldier, and after once the rainy season is set in, his head can hardly be ever dry.—His clothes don't serve to cover his body; and in regard to his feet, they, with stockings and shoes rot in a manner together, not having wherewithal to change; and provided he has, it can be of little signification, because, presently afterwards, he must be in the same condition again; thus, as may be naturally supposed, he is soon sent to the hospital.—White garters are only fit for a review, and spoil in washing; they are also inconvenient, hurtful, of no real use, and very expensive.—The hat soon loses its shape; is not strong enough to resist the rains and hard usage of
a cam-

a campaign, but presently wears out ; and if a man, overpowered perhaps by fatigue, lyes down, it falls off his head ; so that sleeping with it uncovered, and exposed to dews, or bad weather, he is the day following in a fever.

I would have a soldier wear his hair short, and be furnished with a small wig, either grey or black, and made of Spanish lamb-skin, which he should put on in bad weather : this wig will resemble the natural head of hair so well, as to render it almost impossible to distinguish the difference ; will fit extremely well, when properly made ; cost but about twenty pence, and last during his whole life : it will be also very warm ; prevent colds and fluxes ; and give quite a good air.—Instead of the hat, I would recommend an helmet, made after the Roman model ; which will be no heavier ; be far from inconvenient ; protect the head against the stroke of a sabre ; and appear extremely ornamental.—In regard to his clothing, he should have a waistcoat, somewhat larger than common, with a small one under it, in the nature of a short * doublet ; and a Turkish † cloak, with a hood to it : these cloaks cover a man completely, and don't contain above two ells and a half of cloth ; consequently, are both light and cheap : the head and neck will be effectually secured from the weather ; and the body, when laid down, kept dry ; because they are not made to fit tight, and when wet, are dried again the first moment of fair weather.

It is far otherwise with a coat, for when wet, the soldier not only feels it to the skin, but is reduced to the disagreeable necessity of drying it upon his back ; it is therefore no longer surprizing, to see so many diseases in an army ; those who have the strongest constitutions, perhaps escape

* Almost all the Prussian cavalry are clothed in this manner ; and certainly the skirts of a coat are of little, or no use, as there are cloaks, which sufficiently answer the purpose of keeping out the cold and rain.

† These cloaks ought not to extend in length below the calf of the leg.

them the longest, but they must at length submit to a calamity which is unavoidable. If, to the distresses already enumerated, we add the duties they are obliged to do; particularly those, whose burdens are increased by what they carry for their sick comrades; for the dead, wounded, and deserted, one ought not to wonder that the Battalions are reduced at the end of a campaign to 100 men. Thus we perceive how far the smallest things may influence and affect those of the greatest consequence: but to return to the cloaks.——As the quantity of cloth required is small, and they are light, they can be rolled up, and fastened along the knapsack upon the back; in which position they will be very far from having a bad effect, at the same time that the men, under arms, and in fair weather, will find themselves easy, and unencumbered by them; they will also last for 3 or 4 years: thus the dress may be reduced to a smaller expence, rendered more healthy, and its appearance to the eye, rather improved than diminished.

In regard to the legs and feet, I could wish the soldiers were to have shoes made of thin leather, with low heels; which will fit extremely well, and make them involuntarily assume a good grace in marching; because low heels oblige men to turn out their toes, to stretch their joints, and consequently draw in their shoulders: these shoes must be worn upon the naked foot, and greased with tallow, or fat; a kind of precaution, which will doubtless appear strange to the *petit-maitres*, but which we nevertheless know from experience, to have been made use of by all the French Veterans; not only, as it entirely preserved their feet from galling on a march, but as the grease prevented the wet, in a great measure, from penetrating; and the leather from growing hard, and hurting them.

The Germans, who make their infantry wear woollen stockings, have always great numbers crippled, from blisters, ulcers, and all sorts of inflammatory humours in their legs and feet, as wool is venemous to the skin; besides, they soon break at the toes, and, remaining wet upon the feet, presently
rot

rot away : to these pumps I would add thin leathern gaiters , fitted also to the naked leg , and supported upon it by the buttons of the breeches , which are , for that purpose , to come below the knee , and to be made of leather ; thus one avoids the use of garters , which is by no means a circumstance of the least consequence ; for the soldiers at present wear no less than three pair , one over another ; the first , to tie up their stockings , the second , to tighten their breeches knees ; and the third , to keep up their gaiters ; all which must certainly debilitate their nerves , and render them less patient of fatigue.——To these must be added sandals , or * galoches , with wooden soles of about the thickness of an inch , which would prevent the men's feet from getting wet in marching through dirty roads , or the dew , and be of particular service to them , when on duty ; but during the dry season of the year , and for exercises and reviews , they are to be laid aside.

On the 1st. of November every year , they should be also furnished with a pair of woollen stockings large enough to wear over their shoes and gaiters ; which ought , moreover , to be soled with a slender leather ; and the sole to be brought a little over the sides and toes of the feet , that they may be occasionally worn within the galoches.

A R T I C L E 3.

Of subsisting Troops.

The institution of messing amongst troops contributes much to good order , æconomy and health ; debauchery and gaming are thereby prevented , and the soldier , is , at the same time , very well maintained ; nevertheless , it is subject to many inconveniencies ; a man harasses himself after a march in search of wood , water , &c. is tempted to maraude ; is perpetually dirty ,

* A great many of the French soldiers make these galoches themselves in the winter-time , out of their old shoes.

and

and ill-dressed ; spoils his clothes by the carriage from one camp to another of all the necessary utensils for his mess ; and likewise impairs his health by the extraordinary fatigues which unavoidably attend it.——Yet these inconveniencies are not without a remedy ; for the troops being, according to my disposition, divided into centuries, a sutler, provided with 4 carts drawn each by 2 oxen, should be appointed to every one, and furnished with a pot large enough to hold a sufficient quantity of soup for the whole century, his proportion of which every man should receive in a wooden porringer, together with some boiled meat at noon, and roasted in the evening ; and officers should attend, to see that they were not imposed upon, or improperly treated.——The profit allowed to be made by these sutlers, should arise from the sale of liquors, cheese, tobacco, and the skins of the cattle which they kill ; and which they are also to maintain with the herbage and provisions that will be always found in the neighbourhood of the army.

To carry this into execution, may at first appear a matter of some difficulty, but very little application will be necessary to render it both practicable, and of general use. Soldiers, when they were to go on parties, might carry as much roasted meat as would serve them for one or two days, without any manner of encumbrance : the quantity of wood, water, and kettles which is now required to make soup for an hundred men, is more than would be sufficient for a thousand in the way I propose ; and the soup, at the same time, composed of much better ingredients : besides, the soldiers would thus avoid all unwholesome things, which produce disorders, such as hog's flesh, unripe fruit, &c. and the officers would only have occasion to attend their meals, at which one at least should be always present, to take care that they had justice done them : on forced marches, or at such times when the baggage could not be brought up, the cattle upon the spot should be distributed amongst the troops, and wooden spits made to roast it ; which is an expedient accompanied with no embarrassment whatsoever, and lasts only for a few days ; but let us compare
our

our method with this, and we shall soon find which is the most preferable ; it is in use amongst the Turks, who are by that means at all times well nourished, insomuch that their bodies, after an engagement, are very distinguishable from those of the Germans, which are pale and meager : there is also another advantage resulting from it in certain cases ; that of managing the soldier's purse, by furnishing him with his pay, and at the same time selling him his provisions ; for instance, when contributions are to be raised in countries abounding in cattle, like Poland and Germany, that the inhabitants may be able to furnish what is required, one half must be taken in provisions, the other in money, and the former sold to the troops ; thus the soldier's pay makes a perpetual circulation, and there will likewise remain an overplus of both money and provisions.——It is moreover of great service in the consumption of such magazines as you have been obliged to make ; for by sending your troops to subsist upon them, the loss to the state will be much diminished, and no umbrage, at the same time, given to the men.

The use of biscuit in the field, is much preferable to bread ; because it is a composition which does not spoil with keeping ; is very wholesome, and a soldier can carry a sufficient quantity of it for 7 or 8 days without any inconvenience : but we need only apply to such officers as have served amongst the Venetians, to be informed of the general use, as well as convenience of it : the *Moscovite* kind, called *Soukari*, is the best, because it does not crumble ; it is made in a square form of the size of a small filbert, and, as it takes up but little room, will not require such numbers of waggons to convey it from place to place as are necessary for bread.

——The purveyors indeed very industriously propagate the opinion, that bread is better for a soldier ; but that is altogether false, and proceeds only from a selfish regard to their own interest ; for they don't more than half-bake it, and blend all sorts of unwholesome ingredients, which, with the quantity of water contained in it, renders the weight and size double ; add to this, their train of bakers, servants, waggons, and horses, upon all

which they make a large profit; they are also a great incumbrance to an army; must be always furnished with quarters, mills, and detachments to guard them: in short, it is inconceivable how much a General is perplexed with the frauds they commit, the embarrassments they create, the diseases they occasion by the badness of their bread, and the extraordinary trouble they give to the Troops; the erecting of ovens, is a circumstance which, in general, discovers so much of your intentions to the enemy, that it is needless to say any more about it; If I undertook to prove every thing which I advance by facts, I should not be able to dismiss this subject so soon; but, upon the whole, I am convinced, that a great many misfortunes have proceeded only from this evil, which have been falsely ascribed to other causes.

It would be proper sometimes to deny the men even biscuit, and furnish them with corn in its stead, which, after having first bruised, and made into paste, they must learn to bake upon iron plates: Marshal Turenne, in his memoirs, makes some mention of this custom, and I have heard it observed by other great commanders, that they sometimes refused their troops bread, even when they had abundance of it, in order to inure and reconcile them to the want of it: I have made campaigns of 18 months length with troops that were, during the whole time, without it, and yet never betrayed the least dissatisfaction: I have also made several others with such as were accustomed to it, and who were so far from being able to submit to the want of it, that the intermission of it for only a day, was attended with the greatest inconveniencies; a circumstance that rendered every enterprize, in which expedition was required, impracticable.

In regard to flesh-meat, there is hardly a possibility of being reduced to a want of it, for cattle can keep up with an army very well, and cost nothing in conveyance; and if we grant that an ox weighs 500 pounds, and that every man is to be allowed but half a pound, one ox *per* day will maintain a thousand men, and 50 will consequently be sufficient for

50000:

50000: suppose then that a campaign lasts 200 days, the number of oxen required, will amount to no more than 10000, which will follow the army, and find pasture sufficient to support them in all places: they should be assembled in different herds, or repositories, and successively advanced as occasion may require.

I can't omit taking notice here of a custom established amongst the Romans, by means of which they prevented the diseases that armies are subject to from the change of climates; and to which also a part of that amazing success which attended them, ought to be attributed: the German armies lost above a third upon their arrival in Italy and Hungary: in the year 1718, we entered the camp of † *Belgrade* with 55000 men; it stands upon an eminence; the air is wholesome; the water good, and we had plenty of all necessaries; nevertheless, on the day of battle, which was the 18th of August, we could muster only 22000 under arms; the rest being either dead, or incapable of acting.——I could produce many instances of this kind, which have happened amongst other nations, and can be only imputed to the change of climate; but the use of vinegar was the grand secret, by which the Romans preserved their armies; for as soon as that was wanting amongst them, they became as much subject to diseases, as we are at present: this is a fact that few perhaps have attended to, but which is notwithstanding of very great importance to all commanders, who have a regard for their troops, and any ambition to conquer their enemies.——In regard to the manner of using it, the Romans distributed it by order amongst the men, every one receiving a sufficient quantity to serve him for several days, and pouring a few drops of it into the water which he drunk. To trace the cause of so salutary an effect, is what I leave to the adepts in physick, contenting myself with having related a simple fact, the reality of which is unquestionable.

† The Marshal served this campaign as a volunteer.

A R T I C L E 4.

Of paying Troops.

Without entering into a detail of different pay, I shall only say in general, that it ought to be such as will afford a competency : a handful of men well subsisted and disciplined is superior to a multitude of such as are neglected in those important particulars ; for it is the goodness, and not the number of troops, on which victory depends.

Æconomy is commendable, while confined within certain limits, but in exceeding those, it degenerates into sordid parcimony : unless your appointments for the officers, are such as will support them genteely, you must dispose of them, either to men of fortune, who serve only for their pleasure ; or to indigent wretches, who are destitute of spirit : the former of these, I make but small account of, as being, for the most part, impatient of fatigue, and repugnant to all subordination ; who are addicted to perpetual irregularities, and no more than mere libertines : the latter are so depressed, that it would be unreasonable to suppose them capable of any thing great or noble ; for as preferment is not rendered an object of sufficient importance to influence their passions, their ambition is naturally soon gratified ; and they are full as happy to remain in their old stations, as to accede to higher at any expence.

Hope encourages men to endure and attempt every thing ; in depriving them of that, or removing it to too great a distance from them, you divest them of their very soul ; for which reason, all degrees of advancement, ought to be accompanied with a proportionable increase of honours and advantages : and every officer should not only regard the command of a regiment, as a post of the highest dignity, but moreover be assured, that he himself, by good behaviour and perseverance in his duty, will at length, attain

attain the same.—When this kind of spirit is made to prevail amongst your troops in the manner it ought, they may be kept under the severest discipline: but to speak the truth, the gentry, who are, what we call soldiers of fortune, make the only good officers, whose appointments ought nevertheless to produce an income sufficient to maintain them in a handsome manner; because a man, who devotes himself to the service, should look upon it as an entrance into some religious order; he should neither have, nor even acknowledge any other home, than that of his regiment; and, at the same time, whatsoever station he may be in, should esteem himself honoured by it.

According to the fashion of the present times, a man of quality thinks himself very ill used, if the court does not present him with a regiment at the age of 18 or 20; this extravagant partiality destroys all manner of emulation amongst the officers of inferior birth, who thereby become, in a great measure, excluded from any chance of succeeding to the like preferments, and consequently to the only posts of importance, the glory attending which, would atone for the toils and sufferings of a tedious life, to which they cheerfully submit, in hopes of acquiring reputation, and a future recompence.

Nevertheless, I would not be understood to argue, that princes, and other persons of illustrious originals should be denied all marks of preference and distinction; but only that some regard should be had to their abilities; and the privileges of birth required to be supported by those of merit: if properly qualified therefore, they might be allowed to purchase regiments of such of the gentry, as had been rendered incapable of service by age or infirmities; which permission would at the same time prove a recompense for both: but they are, notwithstanding, by no means to be entitled to the liberty of selling again to another; because that of purchasing at unreasonable years is an indulgence sufficient; their regiments

therefore, as often as they became vacant, ought to be afterwards disposed of in recompencing long service and conspicuous merit.



A R T I C L E 5.

Of exercising Troops.

The manual exercise is, without doubt, a branch of military discipline necessary to render a soldier steady and adroit under arms; but it is by no means of sufficient importance in itself to engage all our attention; so far from it, that it even deserves the least, exclusive of that part, which it is dangerous to make use of in the face of an enemy; such as carrying the firelock over the left arm, and firing by Platoons, which, as will hereafter be explained, has occasioned many a shameful defeat.—After this exception, the principal part of all discipline depends upon the legs, and not the arms: the personal abilities which are required in the performance of all manœuvres, and likewise in engagements, are totally confined to them; and whoever is of a different opinion, is a dupe to ignorance, and a novice in the profession of arms.——The question, whether war ought to be stiled a trade, or a science, is very properly thus decided by the chevalier Folard; *it is a trade for the ignorant, and a science for men of genius.*

After having thus treated of the manner of raising, clothing, and subsisting troops, it becomes necessary that I should proceed to that of forming them for action.



ARTICLE 6.

Of forming Troops for Action.

I propose to treat of this subject, which is a very copious one, in a manner so new, that I shall probably expose myself to ridicule; but in order to render myself somewhat less obnoxious to it, I shall examine the present method of practice, concerning the forming of troops for action; which is so far from being confined within a small compass, that it is capable of furnishing matter enough for a folio volume.

I shall begin with the *March*, which subjects me to the necessity of first advancing what will appear very extravagant to the ignorant: it is, that notwithstanding almost every military man frequently makes use of the word *Tactick*, and takes it for granted that it means the art of drawing up an army in order of battle, yet not one can properly say, what the antients understood by it: it is universally a custom amongst troops to beat a *march*, without knowing the original or true use of it, and as universally believed, that the sound is intended for nothing more than a warlike ornament.

Yet sure we ought to entertain a better opinion of the Greeks and Romans, who either are, or ought to be our masters; for it is absurd to imagine, that martial sounds were first invented by them, for no other purpose than to confound their senses.

But to return to the *march*, which, according to the present practice, is accompanied with so much noise, confusion and fatigue, to no manner of effect; and the sole remedy for which, appears to be a secret, left for me to disclose: as every man is suffered to consult his own ease and inclination, consequently some march slow, others again fast; but what is to be

be expected from troops that cannot be brought to keep one certain, regular pace, either quick or slow, as the commanding officer shall think proper, or the exigency of affairs require; and that an officer is obliged to be posted at every turning, to hasten the rear, which is perpetually loitering behind? A battalion moving off its ground, not improperly conveys the idea of a machine, constructed upon no principle, which is ready to fall in pieces every moment, and which cannot be kept in motion without infinite difficulty.

If on a march, the front is ordered to quicken its pace, the rear must unavoidably lose ground, before it can perceive it; to regain which, it sets up a run: the front of the succeeding corps will naturally do the same, which presently throws the whole into disorder: thus it becomes impossible to march a body of troops with expedition, without forsaking all manner of order and regularity.

The way to obviate these inconveniencies, and many others of much greater consequence, which proceed from the same cause, is nevertheless very simple, because it is dictated by nature; it is nothing more than to march in † *cadence*, in which alone consists the whole mystery, and which answers to the military pace of the Romans: it was to preserve this, that martial sounds were first invented, and drums introduced; and in this sense only is to be understood the word *Tactick*, although hitherto misapplied and unattended to: by means of this, you will be always able to regulate your pace at pleasure; your rear can never lag behind, and the whole will step with the same foot; your wheelings will be performed with celerity and grace; your men's legs will never mix together; you won't be obliged to halt, perhaps, in the middle of every wheel to recover the step, nor the men be fatigued in any degree equal to what they are at present. Nothing is more common, than to see a number of persons dance together

† This cadence, or equal measure preserved in marching, is the same which is now in use amongst the Prussian troops.

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during a whole night, even with pleasure ; but, deprive them of music, and the most indefatigable amongst them, will not be able to bear it for two hours only ; which sufficiently proves, that sounds have a secret power over us, disposing our organs to bodily exercises, and, at the same time, deluding, as it were, the toil of them.—If any one, thinking to ridicule what I have advanced, asks me what particular air I would recommend to make men march ; I will readily answer, without being moved by his raillery, that all airs, in common or triple time, will produce such an effect ; but only in a greater or less degree, according to the taste in which they are severally set ; that nothing more is required, than to try them upon the drum, accompanied by the fife, and to choose such as are best adapted to the nature and compass of those instruments.—Perhaps it may be objected, that there are many men whose ears are not to be affected by sounds, which, in regard to this particular, is a falsity ; because the movement is so natural, that it can hardly be even avoided : I have frequently taken notice, that in beating to arms, the soldiers have fallen into their ranks in cadence, without being sensible of it, as it were ; nature and instinct carrying them involuntarily ; and without it, it is impossible to perform any evolution in close order, which I shall prove in its proper place.

If what I have been saying is only considered in a superficial manner, the cadence may not appear to be of such great importance ; but to be able to increase, or diminish the rapidity of a march during an engagement, is an advantage which may be of infinite consequence. The military pace of the Romans was no other than this, with which they marched 24 miles, equal to 8 of our leagues, in 5 hours : let us try the experiment upon a body of our infantry, and see whether they will be able to perform as much in the same space of time : it must be allowed indeed, that marching composed the principal part of their discipline ; nevertheless one may from hence form a judgment of the pains they took in exercising their troops, as well as of the importance of the cadence.—It will be no difficulty to

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prove, that it is impossible to keep the ranks close, or to make a vigorous charge without it; notwithstanding all which, I don't believe a single person has paid any regard or attention to it for these three or four ages past.

It now becomes necessary to examine a little the present method of forming troops for action; and those who understand it the best, divide a Battalion into 16 parts, which are distinguished by different appellations, according to the peculiar customs of places: a company of grenadiers is posted upon one flank, and a picquet upon the other; it is drawn up * four deep, and that its front may be rendered as extensive as possible, it marches to the attack in a line: the battalions which form the whole line of battle, are close to each other, the Infantry being all together in one body, and the cavalry in another; a method contradictory to common prudence, and of which we shall speak more at large in another place: in advancing towards the enemy, they are compelled by the nature of their disposition to move very slow; the majors are calling out, *close!* on which they press inwards, and crowding too much upon their center, it insensibly breaks; and becomes eight deep, while the flanks remain only four; an instance which every person who has been in an engagement will acknowledge the truth of: the General seeing this disorder, and being afraid to have his flanks exposed by the intervals which have consequently been made between the battalions, is obliged to halt, which, in the face of an enemy, is very dangerous; but as they also, from similar measures are probably in as much confusion, the mischief is not so great as it would be otherwise: nevertheless, a person ought at all events to persist in advancing, and never make a halt to remedy such disorders, because if the enemy takes advantage of that opportunity to fall upon him, he must inevitably be undone.

* It is the custom of the English army, to draw up their battalions three deep, but we are to suppose that the *Marechal* alludes in this place to the French disposition.

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When the two armies arrive within a certain distance from each other, they both begin to fire ; and continue their approaches, till they come within about 50 or 60 paces, where, as is usually the case, either the one or other takes to flight ; and this is what is called a charge : it is inconsistent indeed with the nature of their present bad order, that they should be able to make a better, because I look upon it as an impossibility, without the use of the cadence : but let two battalions, which are to engage each other, march up with straight ranks, and without doubling, or breaking, and say which of them will gain the victory ; the one that gives its fire in advancing ; or the other, that reserves it ; men of any experience will, with great reason, give it in favour of the latter ; for to add to the consternation into which the former must be thrown, in seeing their enemy advancing upon them, through the smoke with his fire reserved, they will be either obliged to halt, or, at least, to march very slow, till they have loaded again ; during which time they are exposed to a dreadful havock, if he enlarges his pace, and falls upon them before they are ready again.

Had the last war continued some time longer, the close fight would certainly have become the common method of engaging ; for the insignificancy of small-arms began to be discovered, which make more noise, than they do execution ; and which must always occasion the defeat of those, who depend too much upon them : if therefore the firings had been laid aside, it is highly probable, the present method likewise of forming three or four deep, would have soon shared the same fate : for what service could reasonably be expected from a body of men, rendered slow and unwieldy by their extent of front, against an opposite one, who were able to march with more rapidity, and to perform every movement with more ease ? But in order to render this more intelligible, the following explanation will not be unnecessary.

Let us suppose two battalions, each composed of 600 men, drawn up according to the plan No. 2. A represents one formed after the present method ; B one after mine, and is moreover eight deep, whose front is nevertheless

theless equal to the one four deep ; accompanied at the same time with the advantage of being able still to enlarge it ; which it is impossible for the other to do without breaking : I shall always out-flank the other by adding a pace or two occasionally to my intervals ; shall remain eight deep against four ; have no disorders or confusion to apprehend ; shall be able to march as quick again ; and having no obstacle of sufficient force to oppose me, shall make way through their ranks in an instant.—If they open, in order to attack the flanks of my divisions, the intervals between them are so small, and the pikes transversed in such a manner, that they will be inevitably broken, and thrown into confusion ; and by giving their fire, they will expose themselves to immediate destruction, having no further means of retarding my fury.

This method of forming a battalion corresponds exactly with that of the Romans, and is evidently the best ; let us therefore acknowledge them for our masters, and adopt their measures : tho' they had no gun-powder, yet they invented machines, which, if they made less noise than ours, did as much execution : the effects of gun-powder in engagements, are become less dreadful, and fewer lives are lost by it, than is generally imagined : I have seen whole vollies fired, without even killing 4 men ; and shall appeal to the experience of all mankind, if any single discharge was ever so violent, as to disable an enemy from advancing afterwards, to take ample revenge, by pouring in his fire, and at the same instant rushing in with fixed bayonets ; it is by this method only, that numbers are to be destroyed, and victories obtained.

At the battle of *Castiglione*, *M. de Reventlau*, who commanded the imperial army, had drawn up his infantry on a plain, with orders to reserve their fire till the French approached within 20 paces ; expecting, by a general discharge made at that distance, to defeat them : the French, after having with some difficulty reached the top of a hill, which separated them from the Imperialists, drew up opposite to them, with orders not to fire

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at all: but as *M. de Vendome* judged it imprudent to make the attack, till he had first possessed himself of a farm which was situated upon his right, the two armies stood looking at each other for some time; at length the orders to engage were given; the Imperialists, in obedience to their instructions, suffered the French to approach within about 20, or 25 paces, at which distance they presented their arms, and fired with all possible coolness and precaution; notwithstanding which, before the smoke was dispersed, they were broken to pieces; great numbers of them were destroyed upon the spot, and the rest put to flight.

At the battle of *Belgrade*, I saw two battalions cut to pieces in an instant, of which the following is a relation: being surrounded by a thick fog, which rendered it impossible for us to discern any thing, a strong blast of wind suddenly arose, and dispersed it, when we immediately saw a battalion of *Lorraine*, and another of *Neuperg* upon a hill, called the battery, separated from the rest of our army: Prince *Eugene* at the same time discovering a party of horse in motion upon the side of the mountain, asked me if I could distinguish what they were; I answered, they were 30 or 40 Turks; then replies he, those two battalions are undone; at which time, I could perceive no appearance of their being attacked, not being able to see what was on the other side of the mountain; but galloping up at full speed, I no sooner arrived in the rear of *Neuperg's* colours, than I saw the two battalions present, and gave a general fire upon a large body of Turks at the distance of about 30 paces; instantaneously after which, the Turks rushed forwards through the smoke, without allowing them a moment's time to fly, and with their sabres cut the whole to pieces upon the spot: the only persons who escaped, were Mr. *de Neuperg*, who happened luckily to be on horseback; an ensign, with his colours, who clung to my horse's main, and incumbered me not a little, besides two or three private men: at this instant came up prince *Eugene* almost quite alone, being attended only by his body-guard; but the Turks, of their own accord retired: here the prince received a shot through his sleeve: upon the ar-

rival afterwards of some cavalry and infantry, Mr. *Neuperg* desired a detachment to secure the clothing, upon which sentries were immediately posted at the four angles of the ground, occupied by the dead bodies of the two battalions; and their clothes, hats, shoes, &c. collected in heaps together; during which time, I had curiosity enough to count the number of Turks, which might be destroyed by the general discharge of the two battalions, and found it amounted only to 32; a circumstance, which has by no means increased my regard for the * firings.

It was an established maxim with M. *de Greder*, a man of reputation, and who has, for a long time, commanded my regiment of foot in France, to make his men carry their firelocks shouldered in an engagement; and in order to be still more master of their fire, he did not even suffer them to make ready their † matches: thus he marched against the enemy, and the moment they gave their fire, he threw himself sword in hand at the head of the colours, and crying out, *follow me!* rushed at once upon them: by this method he defeated the *Frise-guards* at the battle of *Flerus*, and was also successful on all other occasions.

What I have been advancing appears to me supported by reason, as well as experience, and proves that our large battalions are vastly defective in their composition; as the only service which they are capable of doing in action, is by their firing, their construction is therefore adapted to that alone; and when that is rendered ineffectual, they are no longer of any consequence; conscious of which, their own safety becomes na-

* The quickness with which the Prussians load, is an advantage in one respect, as it engages a soldier's attention, and allows him no time for reflection in marching up against his enemy: nevertheless it is an error to imagine, that the five victories, which they obtained in the last war, ought to be ascribed altogether to their firing, because it was remarked, that in most of those actions, they lost more men from the fire of the enemy, than the enemy did from theirs.

† This expression alludes to the match-locks which were formerly in use, and signifies the fixing of the match in its proper place to give fire to the musquet.

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turally the next object of their attention; thus it is, that every thing centers, from its very nature, in its point of equilibrium.—The original of this method of forming our battalions, was probably taken from reviews; for, drawn up in such extensive order, they make a more pleasing appearance; to which being familiarized by custom, it insensibly became adopted in action.

Yet notwithstanding the weakness and absurdity of such a disposition, there are many who pretend to vindicate it by reason; alledging, that in thus extending their front, they will be able to enlarge their fire; and, in compliance with this opinion, I have known some draw up their battalions even three deep; but they have been made sensible of their error, by severe experience; otherwise, I really imagine, they would soon have formed them two deep, and not improbably in ranks entire; for it has been hitherto an invariable maxim in all engagements, to endeavour to out-flank the enemy, by exceeding him in front.—But before I enlarge too much on this subject, it is necessary that I should describe my method of forming regiments and legions; after which, I shall treat of the cavalry; and endeavour to establish a certain order and disposition, which, although it may be subject to some change from the variety of situations, ought never to be totally departed from.

CHAPTER II.*Of the Legion.*

TH E Romans subdued the universe by the effects of their discipline; they studied the art of war with indefatigable attention, and judiciously relinquished all old customs, whenever experience threw better in their way; in which respect, they differed from their enemies, the Gauls, whom they perpetually defeated during a series of years, without making them sensible of the badness of their practice, or provoking them to retrieve their losses, by any alteration in it.

The Legion was a body so powerful in itself, as to be capable of undertaking the most arduous enterprizes; its composition, says *Vegetius*, was undoubtedly the effect of inspiration only; a reflection corresponding with the opinion which I have, for a long time, entertained concerning its importance, and which has rendered me more sensible of the defects of our own practice.

According then to my system, the Infantry is to be formed into Legions, every one consisting of four regiments, and every regiment of four centuries; each century having a half-century of light-armed foot, and a half-century of horse.

When centuries of Infantry are drawn up in separate bodies, I shall give them the name of battalions; and the cavalry, that of squadrons; in order to render things familiar to our ideas, by conforming as much as possible to our own customs.

The centuries both of foot and horse are to be composed of 10 * companies; every company consisting of 15 men, as will be explained more at large in the following details.—But as it is necessary in all governments to have regard to æconomy in the support of their armies, it therefore becomes expedient to form them upon † three different establishments, understood by the following appellations;

1. The establishment in peace.
2. The preparatory establishment for war.
3. The complete establishment in war.

In times of profound peace, when the 1st. establishment takes place, the companies are only to consist of one Serjeant, one Corporal, and five veteran soldiers; when preparations are making for a war that is expected, although not declared, an addition of five men must be made; and of ten, when they are to be completed to the full establishment, which makes an augmentation of 1600 *per* legion.

The five veterans *per* company will constitute a fund for the occasional supply of officers, and non-commissioned officers, by which means the inconvenience of making them of such as have never been in service will be avoided.

New raised regiments I am altogether averse to, for unless they are grafted upon old ones, and commanded by good officers, eight or ten campaigns generally destroys them.

The cavalry are to be subject to no manner of change or reduction, for veterans, both in regard to men and horses, are the best; and recruits of either, absolutely useless: notwithstanding therefore they are an expence to a nation, their consequence renders it indispensable.

* Although a company of horse, is an unusual term in the English service, yet it is hoped the military reader will be kind enough to excuse this introduction of it, as it is only admitted in this place, to prevent obscurity and confusion in others.

† See plate 3.

In regard to the Infantry, provided the principal officers are men of sense and experience, the management of the subordinate part of it, is discretionary.

As I am going to treat of war, I shall accordingly suppose my troops completed to the third establishment, so that a century of foot will consist of the following numbers;

The Detail of a Century.

Centurion	-	-	-	1.
Lieutenant	-	-	-	1.
Second Lieutenants		-	-	4.
Ensign	-	-	-	1.
Serjeant-Major	-	-	-	1.
Fourier	-	-	-	1.
Captain-at-arms	-	-	-	1.
Fifer	-	-	-	1.
Drummers	-	-	-	3.
10. companies, composed each of 17 men, including the Serjeant and Corporal	}			170
<i>Total.</i>				184

The two half-centuries of horse and light-armed foot, are not to exceed ten *per* company, including the serjeants and corporals, because they are to recruit themselves out of the regiments to which they respectively belong.——Any diminution of the heavy-armed forces, which compose the main body of the Infantry, even tho' it should be so great by losses in time of war, as to reduce them to the *establishment in peace*, will be of no bad consequence, because the different divisions of the legion, will still remain equal and entire; a circumstance of infinite use, and advantage in service, as you will never be obliged to vary your manœuvre, for it is inconceivable

conceivable how prejudicial are all alterations of that kind ; infomuch, that, after a long peace, I have seen troops belonging to the same government, when assembled together, differ to such a degree in their manner of performing, that one would have naturally taken them for a collection made from several distinct nations.

It is necessary therefore to establish one certain principle of action, and never to depart from it; a principle which ought to be rendered familiar to every military person, as being the foundation of his profession; but it is impossible to retain it, unless you always preserve the same number of officers, and non-commissioned officers; without that, your manœuvres will naturally be subject to perpetual variation.

A regiment is to consist of four centuries, amounting to	736.
The half-centuries of light-armed foot, officers }	- 70
and non-commissioned officers included	
The half-centuries of horse	- - - 70
	876

Staff-Officers.

1. Colonel	-	-	-	-	-	} 6
1. Lieutenant-Colonel	-	-	-	-	-	
1. Major.	-	-	-	-	-	
1. Adjutant.	-	-	-	-	-	
1. Drum-Major	-	-	-	-	-	
1. Surgeon	-	-	-	-	-	
						Total Regt. 882

*Of the Legion.**The state of a Legion.*

4 Regiments	-	-	-	3528.
Legionary General	-	-	-	1.
Legionary Major	-	-	-	1.
Engineers	-	-	-	2.
Quarter-Master	-	-	-	1.
Treasurer	-	-	-	1.
Chaplain	-	-	-	1.
Surgeon-Major	-	-	-	1.
Kettle-drummer	-	-	-	1.
Standard-bearer	-	-	-	1.
Waggon-master	-	-	-	1.
Provost	-	-	-	1.
Marshal-man	-	-	-	1.
Executioner	-	-	-	1.
Carpenters	-	-	-	10.
Workmen of various kinds	-	-	-	10.
Servants for ten carriages	-	-	-	20.
<i>Total Legion</i>				<u>3582</u>

N. B. 2. twelve pounders
2. Pontons.

Every century is to be furnished with a piece of ordnance of my own invention, called an * *Amufette*, which carries above four thousand paces with extreme velocity; the field-pieces used by the Germans and Swedes will scarcely carry a fourth part of that distance: this is also much more true; is drawn, and worked with ease by two or three men; carries a half-pound ball, and is made with a convenience to hold a thousand; all which must render it of great service on numberless occasions in war.

The artillery and waggons are to be drawn by oxen, and the latter loaded with all kinds of instruments and utensils necessary for building forts;

* See plate 6.

as cordage, cranes, pullies, windlasses, saws, hatchets, shovels, mattocks, &c. which must be all marked with the number of their respective Legion, to prevent their being lost, or mixed together.

The private soldiers are moreover to have a piece of brass fixed on each shoulder, with the number of the legion and regiment upon it, to which they belong, that they may, at all times, be easily distinguished.—I would also have their right hands marked in the same manner, with the kind of composition made use of by Indians, so as never to be effaced; which would effectually put a stop to desertion, and tend to innumerable good consequences. This custom, however strange, may nevertheless be easily introduced, provided the sovereign will only assemble his colonels, and represent to them, that it will be of great importance in supporting good order, as well as preventing desertion; that it cannot be considered in any other light, than as a mark of honor, which manifests their engagement in the service of their country; and that they will do him a pleasure, in first complying with it, and setting the example to the rest of his army.—Any address of this nature must infallibly have the desired effect, in consequence of which, all the subordinate officers, ambitious to oblige their Prince, and sensible of the utility of such an institution, will gladly imitate their colonels; after which, the soldiers will be so far from objecting to it, that it will become a matter of choice to them: it was a practice amongst the Romans, but with this difference, that they marked with a hot iron.

The half-centuries of horse are to be composed of Men taken out of the regiments to which they respectively belong, leaving the choice of them to their centurion; with this exception, that he must give preference in such election to the old soldiers: cavalry thus collected and formed, will never abandon their infantry; but, on the contrary, will inspire them with uncommon resolution, and be of admirable service to them, either in pursuing the enemy, or covering their retreat; of which I shall speak more at large in another place.

The light-armed foot are in like manner to be supplied by their respective regiments, the centurions electing the youngest, and most active: their arms must consist of nothing more than a very light fowling-piece, and bayonet with a handle to it, which will, at the same time, answer the purpose of a sword: this fowling-piece, is to be made so as to open and receive the charge at the breech, in order to avoid the inconvenience and loss of time in ramming it down; and all the accoutrements must be as light as possible: their officers are also to be chosen out of the regiment, after the same manner as the private men, without paying any regard to seniority.——Thus formed, they must be exercised with a continuance; must practise jumping, and running, but above all, firing at a mark at three hundred paces distance; and rewards are to be appointed for those who excel in all these different exercises, in order to create an emulation amongst them.

A body of infantry composed according to this plan, and thoroughly inured to labour, can march every where with the cavalry, and, I am confident, will be capable of doing very considerable service.

I am far from approving of grenadiers; for as they usually compose the flower of our army, and are employed on every important occasion, a brisk war exhausts them to such a degree, that they are no longer able to furnish non-commissioned officers, on whom the excellence of the infantry totally depends: I would therefore substitute the veterans in their room, who ought moreover to have a larger pay, than the other soldiers. The light-armed forces are to be employed on all services requiring expedition and activity, and the veterans only on such as were serious and of moment; which will tend to the reciprocal interest of both establishments: the command of the former is to be always given to a Lieutenant, the particular appointment of whom must depend upon the colonel; but that of the latter, being regarded as the post of honor, is to be determined altogether by seniority. According to the present system, it is impossible

possible to prevent the officers from succeeding to grenadier companies by seniority, without affronting them to a violent degree; even those, which is frequently the case, who are in themselves insufficient, and whose persons are naturally too infirm to support the fatigues incident to those stations.—I have also seen the lives of many brave men thrown away on trifles, and that particularly at sieges; it is so common to employ the grenadiers on every occasion which presents itself, that they are sometimes detached on the most frivolous services, and but too often sacrificed without any manner of necessity.

The heavy-armed forces are to have good firelocks, five feet in length, whose bores must be wide enough to hold an ounce ball, and made to receive the charge at the breech, in the same manner as those of the light-armed forces: they will carry above twelve hundred paces; to which must be also added bayonets, two feet and a half in length.

It is needless to be under any apprehensions of over-loading the infantry with arms, because their weight rather serves to poise, and make them steady than otherwise. Those of the Roman soldiers weighed above sixty pounds, and it was death to throw away any part of them in action; which, so far from being attended with any bad consequence, had a quite contrary effect, as it prevented their entertaining any thoughts of flying, and for that reason was one of their capital maxims.

The men are likewise to be furnished with bucklers of leather, prepared in vinegar; which will be attended with very considerable advantages; for they are not only of use to cover the arms, but whenever the troops are to engage standing, they may form a kind of parapet with them in an instant, by passing them from hand to hand along the front; two of them, the one upon the other, being musquet-proof: my opinion in regard to this piece of armour, is supported by that of *Montecuculli*, who says that it is absolutely necessary for the Infantry.

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These bayonets being made with handles to fix within the barrel of the firelock, are much preferable to the others, because they put it into a commanding officer's power, to preserve his fire as long as he thinks proper, which is a circumstance of the utmost importance: it is inconsistent for one body of troops to make use of two different ways of engaging at once; they must of necessity therefore either proceed at once to close fight, or depend altogether upon their firings; and whenever the former method is to be put in execution, the latter must be laid aside, to which, on actual service, men can hardly be reconciled, nothing, in general, being more difficult than to prevent their firing, when they approach near their enemy; of which what follows is one instance.

Charles the XII. king of Sweden, intending to introduce amongst his troops the method of engaging sword in hand, had frequently mentioned his design to his officers, and it was likewise made known to his whole army: accordingly, at the battle of———against the Muscovites, he hastened to the head of his regiment of infantry, the moment it begun, and made a fine harangue; immediately after which he dismounted, and, posting himself in the front of the colours, led them on to the charge; but as soon as they came within about thirty paces off the enemy, the whole gave fire, notwithstanding his presence, as well as his positive orders to the contrary; and although he routed the enemy, and obtained a complete victory, yet he was so piqued, that he passed through the ranks, remounted his horse, and rid off without speaking a single word.

But to return to the legion.—The battallions are at first to be drawn up four deep, the two front ranks being armed with firelocks only, and the two rear, with half-pikes and firelocks slung over their shoulders: the half-pike is a slender weapon thirteen feet in length, exclusive of the iron-head, which is to be three-square, eighteen inches long, and two broad; the staff must be of deal, hollowed and covered with varnished parchment, which will be very light, and not being so limber as one that is solid,
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will be likewise much more useful in action.—My opinion in regard to the importance of this instrument, is supported by the general concurrence of men of reflection and experience, and the only reasons to be assigned for the disuse of it, are such as have also occasioned the abolition of many other excellent customs of the antients, by which I mean, neglect and indolence; the half-pikes were found unserviceable, in some affairs that happened in Italy, where the situation was rough and impracticable for them, from whence they became totally laid aside, and nothing since has been thought of, but to increase the quantity of fire-arms.

Although I have been exclaiming against firing in general, yet in certain situations, it is both serviceable and necessary, such as in enclosures and rough grounds; and also against cavalry; but the method of performing it, ought to be simple and unconstrained.—The present practice is of little, or no effect, for the men are so taken up by that attention which they are obliged to pay to the word of command, that it is impossible for them to fire with any certainty: how is it to be expected, that after they have presented their arms, they can, in such a position, retain an object in their eye, till they receive the word to fire? the most minute accident serves to discompose them, and having once lost the critical instant, their fire afterwards is in a great measure thrown away; the strictest nicety and exactness is required in levelling, insomuch that any movement of the firelock when presented, although even imperceptible, is sufficient to throw the ball considerably out of its true direction; to add to which, their being kept in a constrained attitude, will naturally make them unsteady: these, and other inconveniencies totally prevent that execution which might be expected from small-arms: but as this is a subject, which demands a particular article, I shall therefore treat of it at large hereafter, and return to the forming of my battalions.

In charging, the two rear ranks are to level their pikes, in which position they will extend from six to seven feet before the front rank; the

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front ranks being sheltered in such a manner, will, I am confident, take a much surer aim, and fire with more coolness and resolution, than they would otherwise do; and the rear ranks, as they are likewise covered by the front, will exercise their pikes with more intrepidity, and be capable of doing infinitely more service, than if they were armed only with firelocks: the second rank can fire very well, without obliging the front to kneel, by which means a very inconvenient and dangerous position is avoided; for all those who labour under any degree of fear, are naturally desirous to continue as long as possible in such an attitude, and after they have fired, don't rise up in order to load again, with that briskness which is necessary: but there is another more material objection to this method, which is, that it subjects you to the necessity of halting at every fire.—According to my disposition, the whole are under cover, one rank protected by another with a reciprocal confidence; the front presents a forest of spears, whose appearance must be dreadful to your enemies, and pleasing to your own troops, who become inspired with fresh courage, from a sensibility of their power.

The plans numbered 5, 6, 7, 8, 9, and 10, will explain my manner of forming the centuries. In forming regiments, the standards are to be posted in the center of their respective centuries, because every century is to follow its own: and in forming the legion, the standards of all the regiments are to be governed by the grand, or legionary-standard, which method will enable them on every occasion to form with ease and celerity.

As standards were originally introduced only for these purposes, and to assist troops in rallying, nothing astonishes me more, than that men should be prevailed upon to deviate from so essential an institution: it is become universally the custom, to post all the standards belonging to a battalion in the center of it, as if nothing less than numbers collected together could serve to render them sufficiently conspicuous: this absurd practice appears to me another proof of our ignorance; for the standards
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being appointed by the antients, each to direct the motions of a separate body of troops; and these bodies being reduced by the events of war, to small numbers, the whole, in consequence of their weakness, were at length formed into one body, and all the standards posted in the center: in the course of years, they were completed to their first establishment, but the necessary removal of the standards to their former posts again, which ought to have taken place at the same time, was omitted; from thence we blindly have adopted the same custom, which is a circumstance that has hitherto escaped the observation of any other person; and it is highly probable, that our battalions likewise owe their present unwieldy form to some such original; if this be allowed, the disciplinarians of the present age, have certainly proceeded upon a principle, founded upon extreme ignorance and error.

As there will be above an hundred officers and non-commissioned officers *per* regiment, they are therefore to be always posted by files; one to every maniple or division, and two to every century; this disposition will enable them to prevent the regiments from disordering each other, and the divisions from mixing, which is a matter of no small moment in an engagement: it will moreover produce another good effect, in giving them an absolute command over the men; for whenever they attempt to take their firelocks from off their shoulders, in order to fire at an improper time, or without order, they can instantly see and hinder it; which they are by no means able to do, when posted in the front and rear, according to the present practice.

As I have formed three different establishments, the first, and lowest of which is to take place in peace only; the second, when a war is expected; and the third, after it is declared; at which time, the companies, as has before been explained, are to be completed to seventeen men, and consequently the centuries to 184, serjeants and corporals included; when these centuries therefore are reduced a third, or more, they are to be dis-

tinguished by the name of Troops, and by that of battalions only, when complete.

The half-centuries of light-armed foot, and of horse, must be always kept complete, because they recruit out of their respective regiments, and consequently ought never to be below their proper establishment; and this more especially, as it is not my intention to have them at all subject to detachments, but that they should always march in a body.

In the * disposition for charging, the light-armed foot are to be dispersed along the front, at the distance of an hundred; or from one to two hundred paces from the Legion, and to begin firing when the enemy is about three hundred paces off; which they are to continue, without any word of command, till the enemy approaches within about fifty paces, at which distance, every commanding officer is to order a retreat, taking care to retire softly towards his respective regiment, and in such manner, as to be able to fall into the intervals of the battalions by tens; keeping up his fire likewise, till he has joined them: by this time, the legion must be advancing, in charging order, having doubled its ranks, and formed eight deep, while the light armed foot were skirmishing in front: the half-centuries of horse likewise, being divided and formed into two troops, are to be posted at the distance of thirty paces in the rear of their respective regiments.

The whole moving forwards in this order, with a regular and brisk pace, must certainly make a formidable appearance, and greatly discourage the enemy; for what can they do to oppose the shock? If they would attack the flanks of the centuries, they must necessarily break their battalions, before they can be able to do it, which is a very dangerous, if not an impracticable attempt, considering that the intervals consist of no more than ten paces; those moreover filled by the light-armed foot, and ren-

* See plan 11.

dered still more impenetrable by the transversed pikes of the rear ranks. How is it to be supposed, that being only four deep, and having been likewise already harassed by the light-armed infantry, they can possibly maintain their ground against troops, which are not only quite fresh, but formed eight deep, with a front at the same time equal to theirs; and which fall impetuously upon them, disordered in a manner already by that floating and unevenness of the ranks, which is unavoidable in the movement of so extensive a body? From hence therefore it appears highly probable, that they must be defeated; and if they trust to flight, they will only expose themselves to more certain destruction; for the moment they turn their backs, the light-armed foot, together with the horse posted in the rear, are to pursue, and will make dreadful havock amongst them. During the pursuit, the centuries are to stand fast, in order to receive their own troops again, if repulsed by the enemy, and to be able to renew the charge, in case it should be necessary.

The peculiar advantages of this disposition being thus considered, I cannot avoid giving it the preference to all others: and although it may be imagined by some, that the enemy's cavalry might disperse my light-armed troops, yet in the execution it will be found quite otherwise; for every regiment having but seventy of these irregulars, which will be scattered along its front, and in continual motion, the enemy will have no steady or fit object to fire at; finding themselves able therefore, to do but little, if any execution, and exposed at the same time to a severe fire, they must soon be obliged to retire. But as they will naturally endeavour to remedy this inconvenience, the only effectual method of doing it, will be for them likewise to establish a body of irregulars, trained up to engage mine, and formed upon my principle; thus its goodness is in one instance demonstrated, by the enemy's being reduced to a necessity of adopting it; yet it is reasonable to suppose, that they will first have suffered considerably, and have been repeatedly defeated, before they become sufficiently reconciled to this change in their manœuvre, to put it in practice; and even

then their troops will be but awkward and new to that kind of engagement, opposed against mine perfectly dexterous, and familiarised to it by long habit: their retreat will moreover be attended with great difficulty and danger, for as the present disposition of their main body admits of no intervals, they will be obliged to move along the front of their respective regiments, in order to retire by the flanks.

It will not be improper, before I finish this chapter, to give the following concise calculation of the fire of my light-armed troops.

Let us suppose them to begin firing at the distance of three hundred paces, which is what they must practise at their ordinary exercises, and to continue it, during the space of time necessary for the enemy to march that quantity of ground, which will be from six to seven minutes at least: my irregulars will be able to fire six times in a minute; however, I shall only say five; every one will therefore have fired thirty times, and consequently the complement belonging to every regiment at least two thousand, before the engagement can possibly commence on the side of the enemy. We are moreover to consider, that the troops employed on this service, are such as have been incessantly exercised in firing at some very distant mark; which are not drawn up in any close order; and which fire at their own ease and discretion, without being obliged to wait for the word of command, or kept in that constrained attitude which is customary in the ranks, where the men crowd one another, and prevent their taking a steady aim: I may therefore insist upon it, that a single fire from one of these irregulars perfected in his business, will in general do as much execution, as ten from any other; and if the enemy are drawn up in order of battle, their movement will be so slow, that they must sustain above four or five thousand such fires from every regiment, before they will be able to begin the engagement.

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I would not have any one imagine that three hundred paces, is too great a distance for these fuses; because their construction is such, that they will carry four hundred point blank; and above a thousand, if elevated to twenty, or twenty five degrees.

To these I add the fire of my *Amusettes*; machines which, as I have before observed, don't require above two, or three soldiers both to draw and work them; which soldiers are to be furnished by the centuries to which they respectively belong, assisted by the captains-at-arms, who are appointed only for that service.——Before an engagement, these *Amusettes* are to be advanced in front, along with the light-armed troops: as they can be fired two hundred times in an hour with ease, and carry above three thousand paces, they will be of great use to gall an enemy, when forming after they have passed any wood, defile, or village; when marching in column; or drawing up in order of battle, which last requires time: every century is to have but one; nevertheless, those of both lines may be joined upon occasion, and the whole collected upon any eminence, in which situation they must do prodigious execution. They will carry further, and much more true than our cannon, and the captains-at-arms must be taught by constant practice, to work them with dexterity and judgment: the sixteen belonging to a legion planted together in an engagement, will be sufficient to silence any battery of the enemy's in an instant.

With regard to my pikes, if in rough, or mountainous places they become useless, the soldiers have nothing more to do, than to lay them aside for the time, and to make use of their fuses, which they always carry slung over their shoulders for such purposes. To say that the carriage of them will be too great an incumbrance, is a frivolous objection; for as they are now obliged to carry their tent-poles, nothing more is required, than to substitute these pikes in their room, by making the tents in such a manner, that, with a cord tied by the middle of them, they may answer the same end: their appearance above the tents, so far from being
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displeasing to the eye, will have a very good effect, and be rather ornamental in a camp, than otherwise: their entire weight, including the iron-work, does not exceed five pounds; and being made hollow, they are not so weak and limber, as those in former use, which, at the same time, weighed near seventeen pounds, and were extremely unwieldy.

Even numbers, and the square root constitute the principle, on which the form and disposition of the several distinct bodies of my Infantry depend, and from which one must never depart; as are, for instance, the four * maniples or divisions *per* century; the four centuries *per* regiment; and the four regiments *per* legion.

A body of troops formed according to this plan, must undoubtedly be capable of great things; especially if the legionary general be a man of parts and experience: for instance, if the commander in chief of an army, wants to take possession of some post; to obstruct the enemy in their projects; or, in short, to execute any of those various enterprises, which are frequently found necessary in the course of a war, he has nothing more to do, than to detach some particular legion upon it; which, as it is furnished with every material, that can be required to fortify itself, can soon be secured from any outward insult; and in the space of four or five days, might put itself in such a defensible state, as to be able to sustain a regular siege, and to stop the progress of the enemy's whole army.—How practicable this is, shall be demonstrated hereafter, when I come to the subject of fortification.

This disposition of the infantry appears to me the more prudent, as it is just in all its parts; and the acquired reputation of any single legion will both make an emulous impression upon the others, and at the same time discourage the enemy: such a body will naturally regard their credit

* See plan. 7.

as the common cause, and be perpetually spurred on to glorious deeds, by a restless ambition to equal at least, if not excel that of any other: the exploits of a corps which has any fixed title, are not so soon forgotten, as those of one which bears the name of its colonel only; because that is subject to be changed, and the remembrance of their former actions, will then be apt to cease, together with that of their name: it is moreover natural for all men, to be less interested about things which relate to others, than about those in which they themselves are personally concerned: thus, by the same rule, it becomes much easier, to inspire a corps, which is distinguished by a title peculiar to itself, with a spirit of emulation, than another which is called after its colonel, who very probably may be disliked.—Many persons, not knowing why those regiments which bear the names of provinces in France, have always behaved so particularly well, impute it altogether to their natural courage; which is far from being the real reason, as appears from what I have just been observing. Thus we see, that matters of the utmost importance depend sometimes on trifles, which escape our notice.

These legions moreover form a kind of universal seminary of soldiers, where different nations are freely adopted, and their natural prejudices effectually removed; a circumstance of infinite use to a monarch, or a conqueror, who will thus always have a world to recruit in.—And those who imagine, that the Roman legions were totally composed of Roman citizens, are very much deceived, for they were a collection of all nations; but it was their composition, their discipline, and their method of fighting, which gave them the superiority over their enemies, and obtained their victories; neither were they vanquished in their turn, till these prudent measures became supplanted, and negligence and degeneracy were suffered to prevail in their stead.

C H A P T E R III.

ART. I. Of cavalry. 2. Of armour. 3. Of arms and accoutrements for man and horse. 4. Of the establishment of cavalry; together with their manner of forming, engaging, and marching. 5. Of foraging. 6. Of tents, and the method of encamping. 7. Of detachments, or parties of light-armed cavalry.

A R T I C L E I.

Of cavalry in general.

THE cavalry ought to be well appointed; to be mounted on horses inured to fatigue; to be encumbered with as little baggage as possible; and above all, that common error of making the horses fat should be avoided: the oftner likewise they see an enemy, the better; as it renders them familiar with danger, and capable of attempting any thing: but that immoderate love which we are apt to have for the horses, leaves us ignorant of their real power and importance.

I had a regiment of German horse in Poland, with which I marched in eighteen months above fifteen hundred leagues; and I can also affirm, that at the end of that time it was fitter for service, than another whose horses were too full of flesh: unless cavalry be able to endure fatigue, they are in reality good for nothing; but then they must be broke to it by degrees, and familiarized to it in length of time by custom; after which, galloping at full speed by squadrons, and a constant use of violent exercises, will both preserve them in better condition, and make them last much longer; it will

will moreover form the men, and give them a martial and becoming air. To exercise the horses only once every three years, and then but in a gentle manner, from an apprehension that violent fatigue and sweating may be prejudicial to them, is far from being sufficient; for I insist upon it, that unless they are accustomed to hard treatment, they will be more subject to disorders, and at the same time become incapable of service.

There must be two kinds of cavalry, distinguished by the different names of horse and dragoons; of the former of which, although much the best, the number must be but small, because they are attended with great expence; but their use and application nevertheless requires our particular attention: Forty squadrons of them is sufficient for an army of from forty to fifty thousand men: their movements should be simple, necessary, and free from all tendency to lightness; the essential point being to teach them to engage in a firm body, and never to disperse: the mounting of grand-guards is the only duty which they are to do; for escorts, detachments, and parties are always to be composed of lighter troops; in general, they should be upon a similar footing with the heavy artillery, and never suffered to march but with the army.

The men are to be slender in person, and from five feet six, to seven inches high: their horses to be strong, and never under fifteen hands, two inches high; those of the Germans are the best.

They are to be armed from head to foot, and the front rank to have lances hung by a slender strap to the pommel of the saddle; swords also, four feet long, with stiff three-square blades; carbines, but no pistols, as they will only encrease the weight; stirrups, but, instead of saddles, the * bows only, with a pair of pannels stuffed, and covered with black sheepskins, which are to serve by way of a case, and to come across the horse's chest.

* See plate 13.

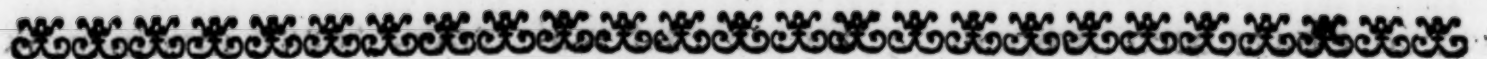
In regard to dragoons, there must be at least twice as many as of horse; but their regiments are nevertheless to be composed of the same numbers: their horses are not to be above fourteen hands high, nor under thirteen, two inches: their exercise must be full of spirit and velocity, and they are also to know perfectly well that of the infantry: their arms are to be fuses, swords, and lances; which last, when they dismount, will serve instead of pikes: their saddles and furniture are to be the same with those of the horse: their persons must be small, and their height from five feet, to five feet, one inch; never exceeding two: they are to form by squadrons three deep, and to march in the same order as the horse.

When they dismount, their ranks are to be open, that they may be able to wheel to the right by half-quarter ranks, and from four form eight deep, according to the * plan annexed: after they have linked their horses, they are to march into the front and form, leaving the right-and left-hand man of every rank on horseback to attend them; but I shall explain this evolution more particularly in Article 4.

The rear-rank must be taught to vault and skirmish, after the same manner as the light-armed troops, always retreating by the intervals between the squadrons, and rallying in their rear; but the front and center ranks are to stand fast as the horse do, and their fuses to be slung.— These dragoons are to be employed on all the petty service of the army; to beat up the enemy's quarters; to form escorts; to furnish out-parties; and to scour the country.

Having thus explained, in general, the proper duties of the cavalry, it becomes necessary to proceed to the subject of the second article.

* See plan 15.



A R T I C L E 2.

Of Armour.

I am at a loss to know, why armour has been laid aside; for nothing is either so useful or ornamental: perhaps it may be said, that the invention of gun-powder, abolished the use of it; but that is far from being the true reason, because it was the fashion in *Henry* the fourth's reign, and since, to the year 1667; and every one knows, that powder was introduced amongst us, long before that time: I shall endeavour to make it appear, that its disuse was occasioned by nothing, but the inconvenience of it.

That a squadron totally unguarded, according to the present custom, will stand but a bad chance opposed to one armed from head to foot, is incontestable; for their swords must be useless to them, their last and only resource therefore, is to fire; which, as it is always highly advantageous to reduce an enemy to such a necessity, becomes an affair well worthy our attention.

I have invented a suit of armour, consisting of thin iron plates fixed upon a strong buff-skin, the entire weight of which does not exceed thirty pounds; it is proof against the sword and pike; and although I cannot allege it to be the same against a ball; especially one that is fired point-blank; nevertheless it will resist all such as have not been well rammed down; as become loose in the barrel, by the motion of the horses, or are received in an oblique direction: but supposing that you do sustain the enemy's fire, that of the cavalry is never very dreadful; and it is a general observation, that those who have availed themselves of it, have been always defeated; it therefore becomes adviseable, even to oblige them to give their fire, which cannot possibly be effected with more certainty and ease, than by arming your cavalry, in the manner

which I have been proposing; for as that will render them invulnerable by the sword, an enemy will naturally be provoked to use their small-arms; but the instant your troops have received their fire, they will rush upon them with irresistible impetuosity, grown doubly desperate from a consciousness of their own security, and a thirst of revenge for the dangers they have but just escaped: And how can those, whose bodies are quite unguarded, be able to defend themselves against others, who are thus, in a manner, invulnerable; for their persons are so little exposed, that it will be impossible to wound them mortally?—If there were only two such regiments in a whole army, and they had but routed a few squadrons of the enemy, the disorder would presently become general, from the formidableness of their appearance.

This kind of armour will not only have a good effect to the eye, but reduce the expence of the clothing considerably; for nothing more will be required, than a small buff-skin every six years; a cloak every three, or four; and a pair of breeches.—The hat is to be exchanged for the Roman helmet, which is so graceful, that nothing can be comparable to it; and it lasts, as does also the armour, during a man's life.—Thus the dress will be rendered much less costly, and more ornamental; your cavalry will no longer be in a condition to dread that of the enemy; but rather be fired, from a sense of their superiority, with an eagerness to engage them: the prince who first introduces this custom amongst his troops, will reap his advantage from it; for I should not be at all surprised to see ten or a dozen such horse-men, attack and defeat a whole squadron, because fear would prevail on one side, and courage on the other.

To say then, that the enemy will adopt the same measures, is to admit the goodness of them; nevertheless they will probably persist in their errors for some time, and submit to be repeatedly defeated for years, before they will be reconciled to such a change; so reluctant are all nations, whether it proceeds from self-love, laziness, or folly, to relinquish old customs:

customs: even good institutions make their progress but slowly amongst us, for we are grown so incorrigible in our prejudices, that such, whose utility is confirmed by the whole world, are, notwithstanding, frequently rejected by us; and then to vindicate our exceptions upon every such occasion, we only say, *'tis contrary to custom.*

To demonstrate what I have advanced, one need but call to mind the number of years, during which the Gauls were perpetually conquered by the Romans, without ever attempting to retrieve their losses by any alteration in their discipline, or manner of fighting.—The Turks are now an instance of the same; for it is neither in courage, numbers, nor riches, but in discipline and order, that they are defective.

At the battle of *Peterwaradin* they had above an hundred thousand men; we only forty thousand, and defeated them. At that of *Belgrade*, they had more than double their former number; we not thirty thousand, and there also conquered: and this will always be the event of their battles, while they depend upon rude numbers, in opposition to skilful conduct: these examples ought moreover to persuade us, never to be prevented in any thing.

Any objections which may be made against this armour, from a supposition that a shot received through it, will be more dangerous, are immaterial; because a ball will only force its own passage through the iron-work, without carrying the broken part into the wound along with it: But let us even grant it to be so, and only weigh the advantages resulting from the use of it, with the bad consequences which will attend the want of it, and we shall find the ballance greatly in our favour: for what will signify the loss of small numbers thus occasioned by their armour, provided that, in general, it gives us the superiority over our enemies, and wins our battles? If therefore it be considered how many men lose their lives, in an engagement, by the sword; and how many are dangerously wounded

wounded by random, and weak shots, against all which this kind of armour will be a protection, one cannot avoid acknowledging the utility of it.—Nothing but indolence and effeminacy could have occasioned its being laid aside: to carry the cuirass, or trail the pike during whole years for the uncertain service of a single day, was deemed perhaps a hardship; but when a state so far degenerates, as to suffer the discipline of its troops to be neglected; or convenience to supply the place of use, one may venture to foretell, without the gift of prophecy, that its ruin is approaching.

The Romans conquered the universe by the force of their discipline; and in proportion as that declined, their power decreased: When the emperor *Gratian* had suffered the legions to quit their cuirasses and helmets, because the soldiers, enervated by idleness, complained that they were too heavy, their success forsook them; and those very barbarians, whom they had formerly defeated in such numbers, and who had worn their chains during so many ages, became then their conquerors.



A R T I C L E 3.

Of arms and accoutrements for Man and Horse.

The men are to have * rifled carbines; which carry much further, than any others, and are more easily loaded, as the ramming down of the charge will be avoided, which is very difficult to perform on horseback: the bore of the barrels must be narrow, which will increase the violence of the ball in its discharge: they must be always slung over their shoulders in an engagement, as well as on a march.

* This kind of carbine, by the assistance of a spring, opens at the breech, and, as has before been observed, receives the charge there; the barrel is also rifled, on which account, and in order to avoid a circumlocution, that epithet only will for the future be made use of, to express this entire piece of machinery.

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They are also to have pouches fixed to their waist-belts, for the convenience of carrying any thing, like those in use amongst the Imperial cavalry.—Their swords must be slung after the same manner as the carbines, because in that position they will be less inconvenient, and more ornamental: their blades must be three-square, that they may be effectually prevented from ever attempting to cut with them in action; which method of using the sword, never does much execution; they are also much stiffer and more durable, than the flat kind; they must be four feet in length, for a long sword is as necessary on horse back, as a short one is on foot.—Pistols are totally to be laid aside, for they are only a superfluous addition of weight and encumbrance.

The front rank are to be furnished with lances; which *Montecuculli*, in his memoirs, prefers to all other weapons in use amongst the cavalry; and even says, that they are irresistible; but then it is necessary that the lancers should be armed from head to foot.—The length of these lances must be about twelve feet, and the staffs hollow; they weigh about six pounds, and will serve in pitching the tents, as will be explained hereafter: thus the encumbrance of tent-poles will be avoided, which have a very bad appearance upon a horse, at the same time that they greatly increase his burden.

We now come to the horse-accoutrements; and with regard to the bridle, I am far from approving of that with a bit; instead of which, I would recommend a head-stall having two straight branches; and from the part, where the bit is usually placed, a leathern strap should pass over the horse's nose, as may be seen in plate 12; this being contrived to draw close, in proportion as the rider tightens his reins, will govern a horse effectually, and answer much better than any bit; one may stop, and manage the most head-strong at pleasure, without spoiling his mouth, or inflaming his jaws.

H

There

There is a considerable advantage attending this sort of bridle, in that a horse will be able to feed with it on, as well as off; for by only slackening the reins, he is at full liberty to open his mouth; and by tightening them again, he is compelled to shut it, which will prevent his lolling out his tongue, and put a stop to several other bad customs, which are learnt by the bit; it will moreover make him raise, and carry well his head. It is originally the invention of *Charles* the twelfth, king of *Sweden*.

With regard to the saddle, I think it extremely defective; if a horse grows lean, the bow bears upon his shoulders, and galls him; if he rolls himself upon the ground, he breaks it; thus a man becomes obliged to march on foot, for if he rides upon it afterwards, he spoils the horse's back: besides, the buckles, stirrup-leathers, and other appurtenances are hurtful, expensive, and heavy; they are perpetually growing out of repair, and one is frequently obliged to have recourse to town-saddlers, which is attended with no small inconvenience.

From these defects of the saddle now in use, I have been induced to invent another, the form and construction of which will appear from plate 13, and the following explanation.—The bow is to be made of iron, strong and well tempered, and fixed upon a pair of cloth, or leathern pannels, stuffed with either wool, or hair, to the end of which must be fastened the crupper: over these must be placed a black sheep-skin, or one of any other animal, which will serve at once for housing, and as a covering for the pannels; this skin is to be brought across the horse's chest, and will have a graceful effect; underneath it also, must go a surcingle, which, in that position, can never gall either the horse, or his rider, who, at the same time, will have a very close and easy seat. The stirrups are to be the same as those used at the manege, fastened at the bow of the saddle, and capable of being shortened, or lengthened at pleasure. These pannels and skins are never to be taken off the horses' backs, either by night or day, unless it be to dress them, after which they must be put on again:

again: they can lie down with them very well, and when any sudden alarm happens, the men, having nothing to do but to mount, are formed in an instant: on grand-guards, or in rainy weather, all that will be required to keep the skins clean and dry, is to roll them up upon the bows: in cases of emergency, the men may make the pannels themselves.

This entire equipage does not cost, by a third part, so much as ours; is infinitely more convenient; weighs nothing; and never galls a horse's back.—Having thus described the accoutrements of the cavalry, I shall proceed to their utensils.

Every man is to be furnished with a large sack, seven feet in circumference, and five in depth; with slings for the arms, as may be seen in plate 12: these being filled with forage, and the men mounted again, are to be placed by their comrades *en croupe*, but as close to their backs as possible: upon any alarm, they are to throw down their sacks, and to form in squadron; thus, as they are never to go without their arms, instead of foragers dispersed about in a disorderly manner, they immediately become a regular body of troops, prepared to give the enemy a warm reception; but I shall treat hereafter more at large upon this subject, in the article of forage.

While the horses are grazing, the men are to cut down the forage by handfuls with sickles, and to put it in their sacks; but it must be such as is quite dry, although there should not be a sufficient quantity upon the spot to fill them; for the horses will not only have fed plentifully while it is gathering, but will carry away, without any kind of fatigue, or injury to their backs, as much as will serve them for two or three days: from one piece of ground one must go to another, and by the time that the last is exhausted, the first will have produced a fresh supply; thus, provided that there are five or six of these in alternate use in the *environs* of a camp, the cavalry may be subsisted for a considerable time, without

being harassed by long marches to fetch their forage. These sacks if stuffed with straw, will also occasionally serve for beds.

Sickles are preferable to fithes, which are not only troublesome, but have a very displeasing appearance in carriage.

Instead of a canteen or barrel, every man is to have a goat-skin bottle, like those made use of in hot countries to hold liquors in; this, with his linnen, stockings, cap, a cord, and his few other necessaries, is to be put into the bottom of his sack, which must be afterwards rolled up together with his cloak, and fastened with two straps upon the pannels behind him.——Thus will be reduced to a very small compass, that monstrous load which is now carried by the cavalry; and which both injures a great number of horses, and encumbers the men: but it will be necessary every now and then to examine their baggage, and to oblige them to throw away every thing that is useless; I have frequently done it, and one can hardly imagine what quantities of stuff they constantly carry with them, all which serve to increase not a little the burden of their horses: it will be no exaggeration to say, that the very superfluities which I have sometimes found in the review of a single regiment, and ordered to be thrown away, have been sufficient to load twenty carriages: this is one of those evils to which the ruin of our cavalry may be in part ascribed.

A R T I C L E 4.

Of the establishment of Cavalry; together with their manner of forming, engaging, and marching.

The regiments of horse and dragoons, like those of foot, are to be composed of four centuries, or squadrons, each of which is to consist of 134 men, according to the following detail;

The

The detail of a century of Cavalry.

- 1. Centurion.
- 1. Lieutenant.
- 4. Sub-Lieutenants.
- 1. Cornet.
- 1. Quarter-master.
- 1. Captain-at-arms.
- 1. Fourier.
- 2. Standard-bearers.
- 2. Trumpeters.
- 10. Brigadiers.
- 10. Sub-brigadiers.
- 100. Men.

Total 134.

Staff-Officers the same as to a century of foot.

The squadrons of horse are never to be reduced in their numbers, but always kept complete to this establishment, because that a great deal of time is required to perfect a trooper in his business; that none but the veteran horses will answer in service; and that they are to form a chosen and solid body.

With regard to the dragoons, they may be either diminished, or dismounted in time of peace; for provided they do but remain upon the establishment of the Infantry, they will be useful.

They are to march by twos in narrow places and defiles, but by squadrons wherever the ground will admit: when they are obliged to lessen their front, the best method of doing it, is to rank off, and march by the center, as may be seen in plan 14; the same in forming again.

In time of war, when an enemy is in the field, they must always march in squadron, and form instantly again after the passage of all defiles, especially

pecially where there is any probability of danger: When they are to form, and march by half-squadrons, it must be done by the center.

In marching by twos, the greatest care must be taken that none of the men double their files; for if one does it, all will do it; by which means a body of cavalry will consume twelve hours on a march, which otherwise would not have required above half that time: one false step is sufficient to create all this delay, unless the officers are extremely diligent; for if not immediately remedied, it will throw a whole column into confusion; some will be halting in one place, others again galloping in another, in order to overtake their leaders; Nothing is so destructive to the cavalry as this want of attention, it should therefore be punished with the utmost severity: When there are holes, or broken parts in the road, which cannot be avoided, it is much better to make a general halt, and repair them, than to suffer troops to march over them in disorder: In passing through waters likewise, the horses must never be suffered to drink; for the halting of a single man for any such purpose, will stop a whole army; as often therefore as that happens, the officers should repair immediately to the spot, and instead of fruitless reprimands and ill-timed mercy, instantly chastise the offender in an exemplary manner, which is the only effectual method of putting a stop to such irregularities; for otherwise the men will be perpetually finding out some weak pretence or other to halt, after which it is impossible for them to recover their ranks without galloping: The consequence of this in the course of a day's march will be, that they won't be able to reach their camp till night, when they might, and ought otherwise to have arrived there by noon; if therefore this abuse is not prevented by extraordinary care and attention, a few days march is sufficient to ruin the best cavalry.

All the different movements that the horse are required to learn, are the wheelings upon the center, and to the right and left by half-quarter ranks; which last they will have occasion to make use of, in order to take possession

possession of a piece of ground, when its narrowness will not permit them to do it in squadron; and likewise to vary their manœuvre, or to change their disposition, as often as situation and circumstances may require it; nevertheless the wheelings upon the center, when practicable, are always the best, because they are the most simple.

The dragoons must be also taught to wheel to the right and left by half-quarter ranks with great celerity and exactness, when they are to dismount; a troop consisting of no more than fifty men, is to wheel by quarter ranks; and by half-quarter ranks, if it exceeds an hundred. When a body of dragoons arrives at any pass which they are to defend on foot, they are immediately to draw up in squadron; after that to perform the evolution of wheeling to the right by half-quarter ranks, as described in plan 15, and dismount. The horses, being linked together, are to be left under the care of one brigadier, and one sub-brigadier *per* squadron, and the right-and left-hand man of every rank; who will be able to march them about, and to govern them with ease; it must nevertheless be rendered familiar to them by practice.

It should be observed as a fundamental rule, never to halt in wheeling upon the center, in order to dress and straighten the ranks, for nothing is more dangerous in the face of an enemy.

When the horse are to charge, they must be strictly enjoined to keep their ranks and files close, and not to disperse on any pretence: their standards are to be sacred to them, and whatsoever may be the event of the engagement, their duty is always to rally to them. When cavalry are so well versed in these principles, as to be governed by them in practice, they will be invincible.

In charging, they are first to move off at a gentle trot to the distance of about an hundred paces; from thence to increase their speed in proportion

proportion as they advance, till they fall at last into a gallop; but they must not close to the croup, till they come within about twenty or thirty paces off the enemy; and even then, they are to receive the following word of command, as a signal for it, from an officer, *follow me!*—— This manœuvre is to be performed with the utmost celerity, they must therefore be familiarized to it by constant exercise; but it is above all things necessary, that they should practise galloping large distances; a squadron, that cannot charge * two thousand paces at full speed without breaking, is unfit for service; it is the fundamental point, for after they have once been brought to that degree of perfection, they will be capable of any thing, and every other part of their duty will appear easy to them.

The dragoons are not only to be rendered as perfect as the horse in these exercises; but must also be taught to skirmish; their rear rank is to disperse, to retreat, and form again with celerity: they are to practise firing on horseback, with such rifled fuses as are used by the light-armed troops, and likewise to learn the exercise of the infantry.

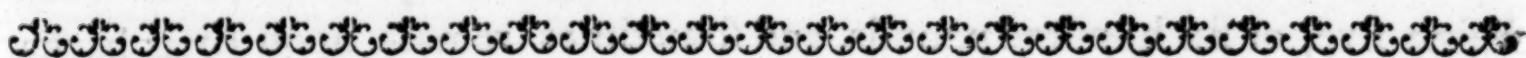
In time of peace, and in winter-quarters in time of war, their horses are to be violently exercised, at least three times a week, in order to inure them to fatigue, and to keep them in wind.——The same severe usage is also proper for the heavy cavalry at those times; for they must never be spared, or tenderly treated but in the field, where they are constantly exposed to hardships.

The best opportunities of teaching them to stand fire, are when the infantry perform their exercises; but they must be broke to it by slow degrees, and very gentle measures; and never be beaten, but, on the contrary, stroked and encouraged as much as possible: in the space of a month, they will be perfectly reconciled to it, and, even lay their heads on the muzzle of a fusee, without any fright or surprise; nevertheless

* The Prussian cavalry are upon this footing.

they

they must not be suffered to approach too close during the firings, for if once they get burnt, it will be no easy matter to bring them near again : neither must they be allowed to wheel suddenly about, or sideways, when the men fire, for unless those motions are guarded against at first, they will presently become habitual.



A R T I C L E 5.

Of Foraging.

Foraging constitutes an essential part of the art of war : the country, where it is intended to be, must first be reconnoitred, and, in doing that, the disposition must be made : the number of horse or foot required to form the chain, is to be proportioned to the degree of danger, and the nature of the situation ; but one must always endeavour to cover at least one side effectually from the insults of the enemy.

The method of foraging for the cavalry, which I have already proposed in the third article, will, in a great measure, prevent those disagreeable accidents, to which such parties are in general exposed ; yet they are always to have one standard, two trumpeters, and one field-officer *per* regiment, and one subaltern *per* squadron.

The foragers must not be permitted to disperse themselves too far ; every regiment is to take possession of the piece of ground which is assigned it, and its foragers are to be obliged to confine themselves within the limits of it : a detached guard of ten men *per* regiment, are to remain with their standard, together with the two trumpeters ; who, in case of any alarm, are to sound the *call*, upon which, their respective foragers are immediately to repair thither.

As soon as every regiment has done foraging, and all the men belonging to it are assembled, it may be at liberty to return to camp, without waiting for the others; but the chain of sentries is to continue, as long as the commanding officer shall think proper.

It is incredible how much the horses are galled by trusses, for they weigh five, or six hundred pounds, and sometimes remain upon their backs eight or ten hours; now and then they are detained abroad whole nights on foraging parties, which alone is sufficient to ruin them, exclusive of any other duties: if, in marching through rough roads, or defiles, a truss breaks, or drops off, or a horse falls down, the whole party are obliged to halt; this is an accident, which frequently happens, and while it is repairing, the other horses being impatient of their burdens, grow restless, and kick one another; thus, instead of one truss, there are presently twenty thrown down: In rainy weather likewise, the ground is so soft and slippery, that it is impossible for them to keep their legs, by which means, the forage must be drag'd through the dirt, and consequently a great part of it spoiled: in short, it is better to deprive the poor animals of it altogether, than to oblige them to purchase it at so dear a rate.

According to my method, neither loss nor inconvenience can happen; the horses will bring a greater quantity of forage into camp, without being exposed to any sort of injury in the carriage.—But besides the many difficulties attending the present manner of foraging, which I have above recounted, one might add the confusion and distress that must ensue, if the foragers are attacked at any distance from their camp; the loss of all their forage is the least misfortune that can befall them; for, as they always take to flight on such occasions, and every man endeavours to provide for his own safety only, their disorder is such, that if they find a bridge, ford, or defile in their way, you'll see them precipitate themselves by hundreds; their fear so totally divests them of their understanding, that they crush, and drown one another to pieces.

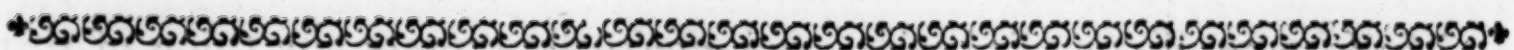
My

My scheme, if complied with, will effectually prevent any thing of this kind from happening ; for the enemy, being advertised of my disposition, will not presume to attack me, from a certainty of being repulsed ; at least, not without a very superior force, in which case it will be impossible for them to surprise me, or to conceal their march with so large a body.

The preceeding part of this article relates entirely to green foraging, I shall now therefore proceed to speak of dry ; which usually commences in the month of September : to do it in safety, it is necessary that the villages should be possessed by infantry, and the adjacent country covered by patrols, and advanced parties of cavalry ; the main body must be posted as near the center as possible, that it may be in equal readiness to march to any part, which may be attacked : after the foraging is over, all the parties must be assembled, in order to form the rear-guard ; from which detachments are to be made, to patrol upon the flanks, if they appear exposed to any danger ; and to take possession of the passes, defiles, eminencies, &c.

That part of the forage which is received in grain, the men must thrash ; and, cutting the straw in half, put the whole into their sacks * : this method of conveyance prevents all that loss, which is unavoidable in the use of trusses, where all the corn sheds in carriage.

* See plate 12.



A R T I C L E 6.

Of Tents, and the method of encamping.

I have already observed, that lances are to supply the place of tent-poles in encamping; in plate 16 therefore is represented a tent, supported in the manner which I have above recommended, and capable of containing a whole century, or squadron, the men, as well as horses included: it is of infinite consequence to keep the horses warm, and under cover, particularly in the autumn, when the nights grow cold; the omission of which, is one of the principal reasons, why they waste away so visibly during that season.

These tents will effectually protect them from the severity of the weather, especially if the men surround them with branches platted together, and sweep the dung into the intervals between, because that cementing will form a kind of wall: with these precautions the horses will require much less feeding, and consequently not be exposed so frequently to the fatigue of fetching forage; by the same rule, an army will be able, both to subsist in one place, and to keep the field much longer, than an enemy, not having recourse to the like measures; all which appear to me circumstances highly deserving a serious attention.

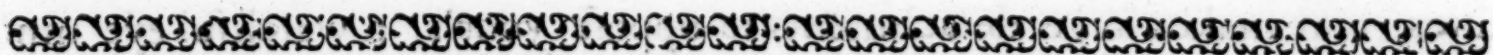
According to the present method of picketing the horses, they certainly spoil the greatest part of their straw when it rains, by trampling it amongst their dung; and although the men supply them with fresh litter, upon such occasions, that also must presently be reduced to nothing but filth; to avoid lying down upon which, they rest with their four feet and head under them, catch a severe cold, are seized with a fit of the colick, and die upon the spot.

Under

Under these tents there will be no occasion for straw at all, as the ground must always remain dry; which will produce a saving of at least one half of the usual quantity of forage, and consequently diminish, in the same proportion, the labour of fetching it; thus, you'll both spare your horses, and be able to subsist a much longer time in the same camp.

If all these things are put together, and properly considered, the advantages resulting from what I have proposed, will easily be conceived: let us but compare my method of foraging, with that in present practice; reflect upon the various accidents, losses, and fatigues which constantly attend the latter, opposed to the ease, convenience, and security of the former, and it will appear, how much it deserves the preference.

The carriage of these tents, notwithstanding their size, will be no particular encumbrance to the horses; or, they may be made to take in pieces, and carried by the men.—The quantity of cloth required for one of them, is near fifty ells less than what is used for a squadron of 130 men, according to the present method; which will appear an extraordinary difference; nevertheless, such as have curiosity enough to make a calculation, will find it true.



A R T I C L E 3.

Of Detachments, or parties of light-armed Cavalry.

The theatre, or situation of a war must determine the use, as well as success of parties: large detachments of cavalry are seldom employed, but upon enterprises which require vigour and expedition; such as the intercepting of convoys, surprising of posts, or sustaining of advanced parties of infantry, on all which they are of great use.—Amongst other instances, suppose you receive intelligence that the enemy have a design to attack

your rear-guard, or your baggage with a considerable force, they will be deterred from putting it in execution, if, the day before your march, you have detached a large body an opposite way; for that will serve to amuse them, and, being at a loss to know positively its route or destination, they will be afraid of falling in between both your parties, and becoming exposed to two fires. Detachments of this kind should be always strong, and the commanding officers, men of parts and experience, for of all the duties incident in service, these are the most replete with hazard and difficulty in execution; at least, where the object is not fixed; otherwise, when ordered to take possession of, or surprise some particular post; or to intercept some convoy, they have nothing to do, but to be governed by their instructions.

The duty of the cavalry is such as renders a knowledge of the seat of war indispensably necessary to them; their excellence consists in resolution, and a quick perception of every situation, or circumstance capable of producing any advantage. Parties of them must be always out; but in general they are not to consist of more than fifty men, and should avoid engaging with the enemy; for the intention of them is nothing more than to gain intelligence, and to pick up prisoners.—If the enemy is bold in his measures, and makes large detachments to oppose your's, a watchful eye must be kept over his conduct, till, by a constant observation of all his proceedings, a successful opportunity may be found of attacking him by surprise, with a more powerful force; having then obtained a superiority in the field, he will no longer presume to molest your small parties: you'll be able to observe all his motions, so that it will be impossible for him to take the least step without your receiving immediate intelligence of it; you'll remain secure and undisturbed; he, exposed to continual fatigue and danger: your foraging parties will be subject to no interruption; his, obliged to use the utmost precautions to escape it.

These

These are the duties on which dragoons are to be employed ; and, after having been inured to them by practice, they will be infinitely superior to hussars ; because they are capable of the same expedition, and much more service : a party of 50 dragoons need be under no apprehensions from the appearance of a multitude of hussars, for they are always to march on a trot, and when they come to the least defile, the hussars will not dare to pursue them further. After they have been taught by exercise and experience, to know their own power, no enterprise will appear difficult to them ; in-
somuch that even the enemy's grand guards will be obliged to submit to perpetual insults from them.

CHAPTER III.

Of the grand Manœuvre.

I AM persuaded, that unless troops are properly supported in an action, they must be defeated ; and that the principles which M. *de Montecuculli* has laid down in his memoirs, are founded upon certainties : he says, that infantry and cavalry should be always reciprocally sustained by each other ; nevertheless we, in direct opposition to his measures, post all our cavalry upon the wings, and our infantry in the center, each to be sustained by itself only ; which disposition, as the interval between our lines is usually five, or six hundred paces, is in itself sufficient to intimidate the troops ; because it is natural for every man, who sees danger before him, and no relief behind, to be discouraged : and this is the reason, why even the second line has sometimes given ground, while the first was engaging ; which is what many others probably, as well as myself, have seen happen more than once ; and, although it seems hitherto to have escaped the reflection of any, cannot, as I have already observed, be imputed to any other cause, than the frailty of the human heart : the
following

following is a transcript of what the above-mentioned illustrious author says upon this subject.

“ In the armies of the antients, every regiment of foot had a certain
 “ proportion of horse and artillery: the horse were divided into two
 “ sorts, under the appellation of heavy-armed and light-armed, the for-
 “ mer of which wore breast-plates: why therefore would they incorpo-
 “ rate these distinct bodies together, unless it was on account of the ab-
 “ solute necessity of such a connection, and the mutual service they would
 “ be capable of rendering each other, by acting in concert? According to
 “ the modern practice, where all the infantry is posted in the center,
 “ and the cavalry upon the flanks, to the extent of several thousand
 “ paces, how is it possible they can support each other? If the cavalry are
 “ defeated, it is evident that the infantry, becoming abandoned, and its
 “ flanks exposed, must unavoidably share the same fate from the enemy’s
 “ cannon at least, if not by other means; which happened to the *Swedes*
 “ in the year 1614. When their cavalry had been driven off the field of
 “ battle, they perceived the error of their disposition, and in order to
 “ remedy it, posted some platoons of musqueteers between the squadrons;
 “ but all efforts were then ineffectual, for the squadrons were totally di-
 “ sordered, and the platoons, not having any body of troops at hand to
 “ retire to, nor pikemen to cover them, were put to the sword; for
 “ how could they possibly retreat to their infantry, which was at so great
 “ a distance?

It is for these reasons that I have posted small bodies of cavalry, at the distance of thirty paces in the rear of my infantry; and battalions of pike-men, formed in the square *, in the interval between my two wings of cavalry; in the rear of which likewise, it will be able to rally, if broken or repulsed †.

My

* See plan 7.

† Perhaps it may be objected that this cavalry, if repulsed by the enemy, will fall in disorder upon the square-battalions; but it should be observed, that the Marechal furnishes them with

My second line of cavalry will never fly, so long as they see the square-battalions in their front, and their countenance will also animate the first: the battalions will maintain their ground, from the persuasion of being soon succoured by the cavalry, who, under the cover of their fire, and vigorous resistance, will presently form again, and renew the charge with fresh courage, in order to retrieve their honour, and wipe out the disgrace of their late discomfiture: the battalions will moreover serve to cover the flanks of the infantry.

Some very improperly post small bodies of infantry between the intervals in their line of cavalry; the weakness of which disposition is alone sufficient to intimidate them; for they see, that if the cavalry are defeated, they must inevitably be cut to pieces: and if the cavalry, who have also a dependance upon them, make but a brisk movement, they leave them behind; so that perceiving they have lost their assistance, they soon fall into confusion; and being put to flight, leave the flanks of your army open to the enemy.

Others again post squadrons of cavalry amongst their infantry, which is equally absurd; for the destruction of horses from the enemy's fire occasions disorder; and if the cavalry give way, the infantry will presently do the same.

But I would ask in what manner squadrons in this disposition are to act: are they to stand fast, sword in hand, and wait the attack of the enemy's infantry, firing and advancing upon them with fixed bayonets? or must they make the charge themselves? if they do the last, and are repulsed, which will most probably be the case, they must break their own

with pikes on purpose to render them capable of opposing the shock of cavalry: besides, the intervals between them are so large, that however precipitate the horse might be in their retreat, it is improbable they would fall upon them; but, for a further security, they might be covered with chevaux de frise.

infantry in their retreat; because it will be difficult for them to find their former posts again, and the intervals allowed them being small, will certainly have been filled up: for the battalions are subject to such great inconveniencies from their present method of forming, that the disorder of a few files, whether occasioned by their own movement, the doubling of the ranks, or the enemy's cannon, is sufficient to throw the whole into irretrievable confusion.—It is far otherwise with my centuries; they follow each their respective standard, and keep in a body together; all disorders amongst them are easily remedied; and if not, so long as they are guided by their standards, which are to dress in a line with that of the legion, nothing bad can be the consequence; because the officers will be able to keep the ranks straight, which it is impossible for them to do in the battalions; and this being also one great defect in *M. de Folard's* column, I shall take the present opportunity to give my sentiments of it.



Of the Column.

Notwithstanding the great regard I have for the *Chevalier Folard*, and his ingenious writings, yet I cannot agree with him in opinion, concerning the column; it is striking indeed, and formidable in appearance, and the idea of it which first presented it to my imagination, seduced for a while my judgment, till by trying it in execution, I became convinced of my error: The following analysis, or calculation will be necessary to discover the defects of it.

In action every man is to be allowed one foot and a half, or eighteen inches distance, and the flanks of the column are to face outwards; which flanks, in whatsoever order it is formed, must be always composed of at least forty files in depth, upon twenty four ranks in breadth; thus, when faced, it consequently takes up sixty feet for its flank front; in marching, it requires one hundred and twenty, which is double its former distance, because

because a man will not be able to move without kicking his leader, if confined within the space of eighteen inches, but to march with celerity, must be allowed three feet ; so that when the front of the column marches first off its ground, the rear will be obliged to wait, till it has gained sixty paces ; and likewise to march the same distance, after the front has halted ; which, as it must make intervals in the flanks, will expose them to great danger : this defect will naturally be increased, in proportion to the number of files which are added ; so that a column, consisting of two hundred and forty, will occupy in its standing order three hundred and sixty feet in length ; and of course, seven hundred and twenty, marching : after having pierced the enemy, its flanks are to face to the right and left outwards, in order to charge their broken ranks ; but as it takes up double its proper allowance of ground, its files will remain open, and large intervals be left ; especially if the charge is made with speed and impetuosity, which ought to be the property of the column.

The *Chevalier* is very much deceived in imagining it to be a body capable of moving with ease ; infomuch that I don't know any one so unwieldy, particularly when it is formed in the manner just above described : if it happens, that the files are once disordered, either by marching, the unevenness of the ground, or the enemy's cannon, which last must make dreadful havock amongst them, it will be impossible to restore them to good order again ; thus it becomes a huge, inactive mass, divested of all manner of regularity, and totally involved in confusion.— I don't think, notwithstanding what the *Chevalier* says, that the weight of it can be of any great consequence, for the men don't push one another forwards in the manner which he describes ; neither is it possible they should, while they take up three paces distance, which they are obliged to do in marching.

In retreating, it has the advantage of battalions formed in the square ; not that it is capable of marching with more celerity, but because every

part moves together ; and although it be even pierced by the enemy's cavalry in pursuit, yet the injury it will thereby sustain is inconsiderable, for they must be exposed to a fire from behind, and the interval they make will presently be closed up.

Two battalions formed back to back will answer the same effect, marching by files, and facing to the right and left outwards, when necessary : this method of retreating must be performed very slowly, for otherwise the rear will soon be separated from the main body, by reason of that distance of three feet, which every man will take up in marching.—But to believe that the column is an active and light body, is an error of which I am thoroughly convinced ; inasmuch that I am even induced to think it a dangerous disposition, when composed of but twenty four by sixteen, on account of the difficulty of forming it again, when once broken or disordered : properly it should never consist in breadth of more than two battalions, formed each four deep, which does not at all confound their natural order.

What I have been saying concerning the room which every man must necessarily take up, shews the danger of marching by files : if you do it in the presence of an enemy, in order to fill up any interval, you must inevitably be undone ; for your battalion will then occupy double its former quantity of ground, and you'll also require double the proper time to form it again : as for instance, supposing your battalion consists of six hundred men with files closed, it will cover two hundred and twenty five feet ; if it is to gain ground to the right, the right-hand man will have marched that distance, before the left-hand man has moved ; and after the former has halted, the latter will have the same number of feet to march, before the battalion can be in its proper order, to face to the front again ; which together takes up as much time, as would be necessary to march the distance of four hundred and fifty feet, or one hundred and eighty paces : if then the enemy is a hundred paces off, and seizes this opportunity

opportunity to charge you, he will have the advantage of as much time, before you can be formed, as is required to march eighty paces: the danger of this movement naturally increases, in proportion as you augment the number of troops that are to make it; for if you have four battalions, and the enemy is at the distance of eight hundred paces, you are exposed to as great a disadvantage: In this I proceed upon geometrical principles, to which it is necessary to have recourse on many occasions in war.

The *Tact* or *Cadence* is the only effectual remedy for these defects, on which the event of all engagements totally depends: 'tis what I have dwelt upon the longer, on purpose to demonstrate the great efficacy of it, and at the same time, to expose the ignorance of our modern disciplinarians; who, notwithstanding they concur with me in regard to the reality of these errors, remain yet unacquainted with any other method of avoiding them in practice, than by marching flow.

We cannot even bring a single battalion, drawn up but four deep, to the charge, without being subject to the inconvenience of which I have been speaking: unless we march at a snail's pace, our ranks and files, when we approach the enemy, are open; which monstrous defect in our discipline, is what gave rise to the present method of firing; for to charge otherwise, it is necessary to move briskly and together, which cannot be done, allowing only eighteen inches to a man, without the *Tactic*.

It is also impossible that the Romans and Macedonians, as their manner of forming was in close and deep order, could engage without it: it is a term which is very familiarly used, but has hitherto, methinks, been totally misapplied or mistaken.

I have frequently been surpris'd, that the column is not made use of against the enemy on a march; for it is certain that a large army always takes up then, three or four times more ground, than is necessary to form

it ; if therefore you get intelligence of the enemy's route, and the hour at which he is to begin his march, although he is at the distance of six leagues from you, you'd have very sufficient time to intercept him ; for his front usually arrives in the new camp, before his rear has quitted the old. It is impossible to form troops that take up so much more than their proper quantity of ground, without making large intervals, and a dreadful confusion ; notwithstanding which, I have very often seen the enemy suffer it to be done without molestation, when one would have imagined that nothing less than fascination could have prevented his taking the advantage of an opportunity so favourable to him.

The present subject might furnish a very useful chapter ; for how many different countries will occasion such straggling marches ; and in how many places may one make an attack without risking any thing ? how frequently does it happen to an army, to be divided on its march by bad roads, rivers, difficult passes, &c. and how many situations will enable you to surprise some part of it ? how often do opportunities present themselves of separating it, so as to be able, although inferior, to attack one part with advantage, and at the same time, by the proper disposition of a small number of troops only, prevent its being relieved by the other ? But all these circumstances being as various and undeterminate as the situations which produce them, nothing more is required, than to keep good intelligence, to acquire a knowledge of the country, and to assume the courage to execute ; for as these affairs are never decisive on your side, and may be so on that of the enemy, the risk you run is inconsiderable, when compared with the advantages you may gain ; the manner of attack, is with the heads of your columns, which are to charge as fast as they arrive, and to be sustained by the others which follow ; so that your disposition is made in a manner spontaneously, and you attack an enemy without either order or support ; and totally unprepared to make any defence.

Thus

Thus have I described the natural use and properties of the column ; but I find I have wandered from my design, which was to confine myself here to the rudiments, or first principles of the military art, and to reserve my observations on the sublime branches for another place.

CHAPTER V.

Of Small-Arms.

I have already said, that the present method of firing by word of command, as it detains the soldier in a constrained position, prevents his leveling with any exactness ; and that it is moreover dangerous in all situations where there is a possibility of coming to close quarters : you must necessarily halt, in order to give your fire, and if the enemy reserves his, and at the same time marches briskly up, you must infallibly be defeated ; for your troops depend upon the execution to be done by their discharge, and when they afterwards perceive their expectations so dreadfully disappointed, they will certainly abandon you.—For these reasons the firing of small-arms, where the close fight is practicable, ought entirely to be laid aside ; but where you are separated from an enemy by hedges, ditches, rivers, hollows, and such like obstacles, it is of great use, and cannot be too much encouraged.

I have above recommended the rifled-fusée, as it is charged quicker, and carries, not only further, but with more exactness : according to the present method of loading, the soldiers, in the tumult and hurry of an engagement, very seldom ram down their charge, and are also very apt to put the cartridges into the barrel, without biting off the caps, by neglecting to do which, many of the arms are of course rendered useless.

In

In order to obviate this mischief, I would have the cartridges larger than the muzzle of the pieces, that the men may not be able through carelessness to load that way; they should be also made of parchment, and pasted up at the tops, which would be easily uncap'd with the teeth; and they ought to contain a sufficient quantity of powder for both the priming and charge: the balls are to be carried in the pouches, which, in action, the men are to take out by four, or five at a time, and to hold them in their mouths, for the sake of more readiness in loading.

To dislodge the enemy from any post on the other side of a river; from hedges, ditches, and such other situations, where the use of small-arms is necessary, I would appoint an officer, or non-commissioned officer to the command of every two files, who should advance the leader of the first a pace forwards, and shew him where he is to direct his fire, permitting him afterwards to use his own time; that is, to avoid hurrying him to make it, before he has taken proper aim at his object: having fired his own fusée, the man who covers him, is immediately to give him his, and so on the others of the same file, passing their arms from hand to hand, till their file-leader has discharged them all four successively: it must be extremely unfortunate indeed, if the second or third shot does not take place; for the commanding officer is close by him, observes his behaviour, directs him where to fire, and dissuades him from all hurry: thus, as he neither waits for the word of command in any constrained posture, nor is in the least confused or interrupted by any body, he will be able to fire his number of times with great ease.

This file having done, the officer is to make it retire, and to replace it with the second; which is to perform the same as the first: after the second has finished its fire, the first having had more than sufficient time to load, is to be advanced again; which may be repeated in the same successive order for many hours together, if necessary.

This

—This method of firing must do such prodigious execution, that I not only think it preferable to any other, but even irresistible: that by platoons or ranks it would presently silence, and although every man amongst them was a Cæsar, I would defy them to maintain their ground against it, for the space only of a quarter of an hour; for one can fire six times in a minute with ease; nevertheless, I shall only say four; allowing which, every fusée will have fired sixty shots in a quarter of an hour, and consequently the file-leaders of a battalion consisting of five-hundred men, thirty thousand; exclusive of the light-armed forces, which, within the space of an hour, will be able to fire about twenty thousand; and that with much more exactness than what we see used at present.

If during a siege therefore two regiments, disposed in this manner, are posted upon a curtain, opposite to any work which the enemy have taken by assault, and where they will require an hour's time to make good their lodgement, they must be exposed to no less than two hundred and eighty thousand shots, in the doing of it.——According to the present method of firing, a soldier, after having loaded, runs upon the banquet, and pops off his piece over the parapet; but whether he fires into the air, or the fosse, is a matter of accident, for he is usually in a hurry, and does not allow himself time either to distinguish, or take aim at any particular object: the battalions are moreover in confusion, and I am persuaded that out of twenty shots, hardly two fall even within the work, where the enemy has made his lodgement. Whilst, on the contrary, according to my disposition, every one will take place, which must consequently produce a very different effect: this method of firing may be also of infinite service against cavalry, especially when accompanied with the protection of my pikes.

CHAPTER VI.

Of Colours or Standards.

THE general, or commander in chief of an army, should have a standard to be carried before him, as a mark of his dignity; which would be also useful, in facilitating the means of finding him upon all occasions.

As the colours, or standards are of the greatest importance in action, they therefore require our particular regard and attention: in the first place, they should all be of different colours, that the legions, regiments, and even centuries to which they respectively belong, may be readily distinguished in an engagement.

The men must be taught to think it a matter of conscience, and an indispensable obligation, never to forsake them: they are to be looked upon as things sacred, and regarded with a respect inviolable; it is necessary therefore, in order to produce this effect, that they should be always attended with great form and solemnity: this is an essential point to be obtained, for after troops are once brought to such a degree of attachment to them, they can hardly ever fail of success in any enterprise; resolution and courage will be the natural consequences of it; and if, in desperate affairs, some determined fellow seizes but a * standard, he will render the

* The religious care which the Roman soldiers took of their ensigns or standards was extraordinary. They worshipp'd them, swore by them, and incurr'd certain death if they lost them: hence it was an usual stratagem in a dubious engagement, for the commanding officers to snatch them out of the bearer's hands, and throw them amongst the troops of the enemy, knowing that their men would venture every thing to recover them.

whole century as intrepid as himself, and be followed by it wheresoever he leads the way.

The standards being distinguishable by their different colours, will render the actions of every century conspicuous; a circumstance which must create the greatest emulation, because both officers and soldiers will be conscious that they are exposed to observation; that their countenance, conduct, and behaviour is apparent to the rest of the legion.

The first century that shall have carried a pass, forced a retrenchment, or made a vigorous charge, will be easily distinguished, and gain the applause of the whole army: the men, as well as officers, will from thence become more united; their exploits will be the constant subject of conversation, and the glory with which they are crowned, will be a powerful incitement to the imitation of them: thus things, which are but trifles in themselves, will tend to diffuse a general spirit of emulation amongst the troops, and, in the course of time, will render them invincible.

The particular number of every century must be distinguished by the colour of its standard; as, for instance, white might signify number 1. black, 2. yellow, 3. green, 4. red, 5. blue, 6. chocolate-colour, 7. crimson, 8. sea-green, 9. sky-blue, 10. black and white in a lozenge, 11. green and yellow in two bends, 12. yellow and blue by the angles, 13. a green cross upon a yellow ground, 14. a red cross *en sautoir* upon a white ground, 15. three bends, yellow, green and red, 16.

Every standard must have a white quarter near the staff to hold the number of the legion, which is to be marked in Roman characters.—Thus the designs and colours will serve to distinguish the centuries of every legion, and the ciphers the legions themselves.

CHAPTER VII.

Of Artillery and Carriage.

I never would have an army to consist of more than ten legions, eight regiments of horse, and sixteen of dragoons; which would amount to thirty four thousand foot, and twelve thousand horse; in the whole, forty six thousand men.

A general of parts and experience commanding such an army, will be always able to make head against one of an hundred thousand, for multitudes serve only to perplex and embarrass: not that I think reserves are unnecessary, but only that the acting body of an army ought not to exceed such a number.

M. de Turenne was always victorious with armies infinitely inferior in numbers to those of his enemies, because he could move with more ease and expedition; knew how to secure himself from being attacked in every situation, and kept always near his enemy.

It is sometimes impossible to find a piece of ground in a whole province, sufficient to contain an hundred thousand men, in order of battle, which subjects an army that is so strong to the necessity of being frequently divided: thus I would seize a favourable opportunity of attacking one part of it, and having defeated that, should thereby intimidate the other, and soon gain a superiority.

In short, I am persuaded that the advantages which large armies have in point of numbers are more than lost in the extraordinary encumbrance, the diversity of operations under the jarring conduct of different commanders, the

the deficiency of provisions, and many other inconveniences, which are inseparable from them.

But it is here somewhat unseasonable to treat of this subject, only that I have been led to make this digression for the sake of ascertaining the proportion of things.

Sixteen pounders are equally as useful as twenty four pounders to batter in breach, and are much less troublesome in carriage; fifty of them, together with twelve mortars, and a proportionable quantity of ammunition, will be sufficient for such an army, as I have just been describing. Boats, with all the proper tackling to make a bridge: twelve pontoons with joints *, for the passage of canals, and small rivers; together with all other necessary instruments and utensils. These jointed pontoons, don't consume above seven minutes time in laying, and are also as readily taken up again; they are of very great use for the communication of armies, and will require only four oxen to draw them all.

The carriages for provisions must be totally of wood, without any sort of iron work about them; such as those of the *Muscovites*, and also those which we see come out of the *Franche-Comte* to *Paris*: they travel from one extremity of the kingdom to the other, without damaging the roads; one man is sufficient to drive four with ease, each being drawn by two oxen only: ten of our carriages do more detriment to a road, than a thousand of these.——If we do but reflect upon the inconveniences occasioned by our present method of carriage, we shall see the use, as well as necessity of adopting this; how frequently does it happen that there is a total want of provisions, because the carriages have not been able to get up? how often is the baggage, and likewise the artillery left behind, which obliges the whole army to make a sudden halt upon the spot, however inconvenient it may be? a little rainy weather, and but a hundred

* See plate 18.

or two of carriages are enough to break and destroy a good road to such a degree, as to render it afterwards impassable; and notwithstanding you repair it with fascines, yet the succeeding hundred, leave it in a worse condition than it was before; for it will be cut to pieces with the wheels, by the reason of that vast weight which is thus supported upon two points only.

All the carriages belonging to an army ought to be drawn by oxen; on account, in the first place, of their equality of pace; in the second, because they are attended with no loss; in the third, every situation will produce sufficient forage to support them; in the fourth, when any are maimed, or destroyed, others may be had from the magazines: add to which that only a small quantity of gear is required, and that wherever the army halts, they immediately find their natural food and nourishment.— A single man, and eight oxen will be able to draw more, than four men, with a dozen or fifteen horses; neither will they consume the forage which they should bring to camp, as the horses do, because they are left to pasture, while the servants are gathering and loading it; all which is moreover done without any manner of trouble, or inconvenience: such as get maimed, must be killed, and eaten; and are to be replaced by others out of the magazines.

All these reasons have induced me to prefer them to horses for carriage, but they must be likewise marked, that every one may be able to distinguish his own in the pastures.

CHAPTER VIII.

Of Military Discipline.

NEXT to the forming of troops, military discipline is the first object that presents itself to our notice; it is the soul of all armies; and unless it be established amongst them with great prudence, and supported with unshaken resolution, they are no better than so many contemptible heaps of rabble, which are more dangerous to the very state that maintains them, than even its declared enemies.

It is a false notion, that subordination, and a passive obedience to superiors is any debasement of a man's-courage; so far from it, that it is a general remark that those armies which have been subject to the severest discipline, have always performed the greatest things.

Many general officers imagine, that in giving out orders, they do all that is expected from them; and therefore, as they are sure to find great abuses, enlarge their instructions accordingly, in which they proceed upon a very erroneous principle, and take such measures as can never be effectual in restoring discipline in an army wherein it has been lost or neglected.

Few orders are best, but they are to be executed with attention, and offences to be punished without respect of either rank or extraction; all partiality and distinction must be utterly abolished, otherwise you expose yourself to hate and resentment: by enforcing your authority with judgment, and setting a proper example, you may render yourself at once both beloved and feared: severity must be accompanied with great tenderness and moderation, so displayed upon every occasion as to appear void of all manner of design, and totally the effect of a natural disposition.

Great

Great punishments are only to be inflicted for great crimes; but the more moderate they are in general, the more easy it will be to reform abuses, because all the world, concurring in the necessity of them, will chearfully promote their effect.

We have, for example, one very pernicious custom; which is that of punishing marauders with certain death, so that a man is frequently hanged for a single offence; in consequence of which, they are rarely discovered, because every one is unwilling to occasion the death of a poor wretch, for only having been seeking perhaps to gratify his hunger.

If, instead of this method, we did but send them to the provost's, there to be chained like galley-slaves; and condemned to subsist upon bread and water for one, two, or three months; or to be employed upon some of those works which are always carrying on in an army; and not to be restored to their regiments, till the night before an engagement, or till the commander in chief shall think proper; then all the world would join their endeavours to bring such delinquents to punishment; the officers upon grand-guards and out-posts would not suffer one to escape, by whose vigilance and activity the mischief would thus be soon put an entire stop to: such as fall at present into the hands of justice, are very unfortunate indeed; for the provost and his party, when they discover any marauders, immediately turn their eyes another way, in order to give them an opportunity to escape: but as the commander in chief is perpetually complaining of the outrages which are committed, they are obliged to apprehend one now and then, who falls a sacrifice for the rest: thus the examples that are made, have no tendency towards removing the evil, or restoring discipline, and hardly answer any other purpose, than to justify the common saying amongst the soldiers. "that none but the unfortunate are hanged."—Perhaps it may be observed that the officers likewise suffer marauders to pass by their posts unnoticed; but that is an abuse which may be easily remedied, by discovering from the prisoners, what

what particular posts they passed by, and imprisoning the officers who commanded them, during the remainder of the campaign : this will render them vigilant, careful, and severe ; nevertheless, when a man is to be punished with certain death for the offence, there are but few of them, who would not risk two or three months imprisonment, rather than be instrumental to it.

All other military punishments, when carried to extremes of severity, will be attended with the same consequences.—It is also very necessary to prevent those from being branded with the name of infamy, which should be regarded in a milder light ; as the gantlope, for instance, which in *France* is reputed ignominious ; but which, in the case of the soldier, deserves a different imputation, because it is a punishment which he receives from the hands of his comrades : the reason of its being thus extravagantly vilified, proceeds from the custom of inflicting it in common upon whores, rogues, and such offenders as fall within the province of the hangman ; the consequence of which is, that one is obliged to pass the colours over a soldier's head, after he has received this punishment, in order, by such an act of ceremony, to take off that idea of ignominy which is attached to it ; a remedy worse than the evil, and which is also productive of a much greater ; for after a man has run the gantlope, his captain immediately strips him, for fear he should desert, and then turns him out of the service ; by which means this punishment, how much soever necessary, is never inflicted but for capital crimes ; for when a soldier is confined for the commission of any trivial offence, the commanding officer always releases him upon the application of his captain, because forsooth, the loss of the man would be some deduction from his perquisites.

There are some things of great importance towards the promotion of discipline, that are notwithstanding altogether unattended to ; which, as well as the persons who practise them, are frequently laughed at and despised.—The French, for example, ridicule that law amongst the Ger-

M

mans,

mans, of not touching a dead horse; which is nevertheless a very sensible and good institution, if not carried too far: pestilential diseases are in a great measure prevented by it, for the soldiers frequently plunder dead carcases for their skins, and thereby expose themselves to infection. It does not prevent the killing, and eating of horses during sieges, a scarcity of provisions or other exigencies: let us from hence therefore judge whether it is not rather useful than otherwise.

The French also reproach the Germans for the bastinade, which is a military punishment established amongst them. If a German officer strikes, or otherwise abuses a private soldier, he is cashiered upon complaint made by the party injured; and is also compelled, on pain of forfeiting his honour, to give him satisfaction, if he demands it, when he is no longer under his command: this obligation prevails alike through all ranks, and there are frequently instances of general officers giving satisfaction at the point of the sword to subalterns who have quitted the service; for there is no refusing to accept their challenge, without incurring ignominy.

The French don't at all scruple to strike a soldier with their hands, but they are hardly ever tempted to apply the stick, because that is a kind of chastisement which has been exploded, as inconsistent with that notion of liberty which prevails amongst them: nevertheless, prompt punishments are certainly necessary, provided they be such as are not accounted dishonourable.

Let us compare these different customs of the two nations together, and judge which contributes most to the good of the service, and the proper support of the point of honour. The punishments for their officers are like wise of distinct kinds; the French upbraid the Germans with their provosts and their chains; the latter retort the reproach, by exclaiming against the prisons and ropes of the French; for the German officers are never confined in the publick prisons. They have a provost to every regiment,

ment, which post is always given to an old serjeant in recompense for his service, but I have never heard of their officers being put in irons, unless for great crimes, and after they had been first degraded.

These observations which I have been making, serve to demonstrate the absurdity of condemning particular customs, or prejudices, before one has examined their original causes.

After having thus explained my ideas concerning the forming of troops, their manner of engaging, and lastly, concerning discipline, which, if I may use the expression, is the basis and foundation of the art of war, I am to proceed now to the sublime branches. Few persons will perhaps understand me, but I write for the connoisseurs, who I hope will not be offended at the confidence with which I deliver my opinions.





B O O K II.

Of the Sublime Branches of the Art of War.

C H A P T E R I.

Of Fortification, and the attack and defence of places.



A M surprised that the present erroneous policy of fortifying towns, has not yet been laid aside; which opinion, as it will probably appear extraordinary, it is therefore necessary that I should justify.

Let us, in the first place, examine the usefulness of fortresses; they cover a country; they subject an enemy to the necessity of attacking them, before he can penetrate further; they afford a safe admission to your own troops on all occasions; they contain magazines, and form a secure receptacle, in the winter time, for artillery, ammunition, &c.

These things being properly considered, we shall find it most prudent and advantageous to have them erected at the junction of two rivers, because in such situations the enemy will be obliged to divide his army into three distinct bodies, before he can be able to invest them, one of which may be repulsed and discomfited, before it can be succoured by the others: two sides of your fortress will likewise remain always open,
till

till the blockade is completed, which cannot possibly be done in a single day; neither can the necessary communication between the divisions of his army be kept up, without the use of three bridges, which will be exposed to the hazard of those sudden storms and inundations which usually happen in the campaigning season.—Moreover, in being thus master of the rivers, one thereby obtains a command of the whole country: one may divert their course, if occasion shall require it; may be readily furnished with supplies of provisions; may have magazines formed, and ammunition, or other sorts of military stores transported to you with ease.

In a country where rivers are wanting, there are nevertheless other situations to be found, so strongly fortified by nature, that it is next to an impossibility to invest them; and which being accessible only in one place, may at a small expence be rendered in a manner impregnable, for in general, I look upon the works of nature to be infinitely stronger than those of art: what reason therefore can we plausibly assign for neglecting to make a proper use of them? Few cities have been originally founded for the purpose of sustaining a regular siege; but were indebted to trade for their largeness, and to chance for their situation: in the course of time, they increased, and the inhabitants surrounded them with walls for a defence against the incursions of their common enemies, and a protection from those intestine disturbances, in which kingdoms are sometimes involved: these precautions were so far just and necessary; but what could be the inducement for princes to fortify them? Before Christianity became established in the world, and when vanquished provinces were laid waste and depopulated, such a proceeding might wear some appearance of reason; but now that war is carried on with more moderation and humanity, as being by those measures productive of more advantage to the conqueror, what can be said to justify it? A town surrounded with a strong wall, and being capable of holding three, or four hundred men, besides the inhabitants, together with some artillery, will be as secure, as

if the garrison consisted of as many thousands ; and I insist upon it that the latter, notwithstanding their superiority in numbers, will neither make a longer defence, nor a more advantageous capitulation for the inhabitants, when they surrender : but what use, is it probable, the enemy will make of the place, after he has taken it ? He will scarcely fortify it, but, as it appears to me, will rather content himself with a contribution, and march further : perhaps indeed, the opposition he may expect in taking it, and the difficulty of keeping it afterwards, may deter him altogether from laying siege to it, for he will be afraid to trust the possession of it to a small garrison, and unwilling to expose a large one to the hazard of being made prisoners.

There is another more powerful reason to persuade me, that fortified cities are capable of making but a weak defence, which is, that notwithstanding a garrison is furnished with provisions for a three months siege, yet it is no sooner invested, than they find that there is hardly a sufficient quantity for eight days ; because no extraordinary allowance is made, in the calculation of numbers, for ten, twenty, or perhaps thirty thousand additional persons, who have abandoned the country for the security of themselves and their effects to find refuge there. The riches of a prince are not sufficient to provide magazines for the support of a whole province, in every place that is in danger of being attacked, much less to supply the annual consumption of them ; for it would even exceed the boasted virtue of the *philosopher's stone* to do it, without creating a famine in his dominions.—Some may perhaps observe, that those who could not furnish their own provisions, ought to be expelled the garrison ; but such an inhuman proceeding would be attended with more misery and distress, than even the arrival of the enemy ; for what multitudes are there in all cities, whose manner of livelihood would render them obnoxious to that treatment ? But suppose it nevertheless to be put in execution, is it probable, that when the enemy invests the place, he will suffer these wretches to retire where they please, and the garrison to avail itself of their banishment ?

so far from it, that he will undoubtedly turn them back again; and surely the governor will not suffer them to perish with hunger at the gates; neither can he be afterwards able to justify such conduct to his sovereign; he will therefore be reduced to the necessity of admitting them, and of course become incapable of holding out long: for suppose that his garrison consists of five thousand men; that he has provisions for three months; and that the number of inhabitants besides, amounts to thirty thousand: such an addition will consequently render one day's consumption of provisions, equal to what six or seven were before, and the place not remain tenable for above twelve or fourteen days; but provided it holds out even twenty, the enemy has little or no trouble in carrying on the siege, because it must at length surrender of its own accord; and thus will all the millions, which have been expended in fortifying it, be thrown away.

What I have been saying, appears to me sufficient to demonstrate the great defects of fortified cities: and that it is most advantageous for a sovereign to erect fortresses in such situations as are strong by nature, and properly adapted to cover the country; after having done which, it will become a matter of prudence, if not to demolish the fortifications of his towns as far as to the ramparts, at least to relinquish all thoughts of strengthening them for the future, or of laying out such immense sums of money, to such useless and ineffectual purposes.

Notwithstanding that what I have here advanced, is founded upon sense and reason, yet I am conscious there is hardly a single person, who will concur with me in opinion; so prevailing, and so absolute is custom: a place situated according to my plan, may be defended against an enemy for several months, or even years, provided it can be supplied with provisions, because it is free from that detriment and encumbrance, which is unavoidably occasioned by citizens.

The

The sieges in *Brabant* had not been carried on with such rapid success, if the governors had not calculated the duration of their defence, by that of their provisions; on which account they were as impatient for the making of a sufficient breach, as the enemy, that they might be thereby furnished with a decent opportunity of capitulating; yet notwithstanding this mutual disposition of the two contending parties towards the accomplishment of the same end, I have seen several governors obliged to surrender, without having had the honour of marching out through the breach.

It has been a remark of mine at sieges, that the covert-way is crowded at night with men, and a great fire of small-arms constantly made from thence, which does but very little execution, and fatigues the troops, even to a degree of abuse.—The soldier who has been firing all night, is naturally tired; but as his firelock must be out of order, that part of the ensuing day which he would be glad to appropriate to rest and refreshment, he is obliged to spend in cleaning and repairing it, and in making cartridges; a circumstance of infinite consequence, and which, unless attended to, will be productive of diseases, and a general dislike to the service.—It is towards the end of a siege, when every thing becomes disputed by inches, that vigour and resolution are most wanted; at which time, the greater proofs you give of those, the more the enemy will be discouraged; for disorders will then begin to spread amongst them; for age and provisions will grow scarce; and all things seem to concur to their destruction: if moreover, to add to their dispondency, they perceive that your resistance is still stronger, and that it increases when they expected it to diminish, they will be at a loss how to act, and give themselves totally up to despair.

It is for these reasons, that the best troops ought always to be reserved for desperate affairs only, and never suffered to expose themselves upon the ramparts, or to do centinel's duty in the night-time, but to be sent to
their

their quarters again, immediately after their return from any expedition, on which they have been employed.

With regard to the fire which is made by the besieged from the covert-way and the ramparts upon the workmen during the night, it amounts to little more than so much noise; for the soldiers, to avoid the trouble of ramming down their charge, take the powder by handfuls, pour it loose into the barrel, and put the ball in after it; and, as by constant firing their shoulders are become painful to them, and the obscurity of the night likewise prevents the officers from seeing what they do, they only place the muzzles upon the palisades, and fire at random.

It is much better to raise, towards the close of the day, some * barbet-batteries, either in the covert-way, or upon the ramparts, and draw a line with chalk, to direct their fire in the night-time towards the proper object, removing them again at break of day: these will do infinitely more execution than the small-arms, because they will make way through gabions and fascines; the balls being as large as walnuts, will scour the whole breadth of the trenches, and by rolling and bounding *a ricochet*, will go far beyond the port of musketry: they'll make dreadful havock amongst the workmen, and those who serve the batteries, neither will the enemy's cannon be able to dismount or silence them. Twelve pieces planted after this manner will require no more than thirty six soldiers, and twelve cannoniers to work them; and I am persuaded, will do more mischief than a thousand men posted in the covert-way: besides, your troops are, during all this time, at rest, and will, the day after, be in condition to be employed on any kind of service.—It may be objected perhaps, that the

* These batteries are raised about four feet higher than the *Terre-plein*, so that the guns may be just high enough to fire over the parapet. The French have named them batteries *en barbe*, or *en-barbette*, because the ball, in its passage out of the cannon, shaves, as it were, the grass from the upper talus of the parapet.

consumption of powder will be very much increased by this method of firing; but the soldiers with their small-arms waste more in the night-time, than they use; and if ammunition is scarce, the number of guns upon these batteries may be accordingly less: the advantages resulting from it, will be very considerable, in that your troops will be exposed to less fatigue, and consequently be more free from disorders, for nothing occasions them so much, as night-duties.

I shall make one observation in this place, which is, that all the antient fortifications are absolutely good for nothing, and the modern ones are not much better, as shall be demonstrated at the end of the succeeding chapter.——The * king of Poland has formed an admirable plan of fortification, but as the present construction of places is founded upon a different system, and we are compelled to make use of them as they are, I shall therefore only endeavour to remedy their most glaring defects. And amongst many, that of all the out-works, for example, being icarped at the gorge, is far from being the least; in order to remedy which, it is necessary to contrive an easy communication with them, so as to have power, when they fall into the hands of the besiegers, to assail them sword in hand from behind; for after they have made a lodgement in them, the number of men which they leave to keep possession is but small, because their covering party and pioneers are obliged to retire; if therefore you command access to them, and attack them afterwards with a superior force, you must undoubtedly dislodge them; and before they can renew the assault, their lodgement will be destroyed: this you may be able to accomplish with safety, because you'll not be exposed to any interruption from the fire of their batteries, or trenches: they will thus be obliged to make a fresh attack. in which they must lose an infinite number of men, because it will be necessary for them to assail it with a large force: when they have again carried the work, and their parties are retired, you are to

* *Augustus* the 2d. the Marechal's father.

repeat your folly, and dispossess them as before : nothing can be more destructive and discouraging to the besiegers, than this method of proceeding with them, and the advantage moreover will remain always on your side.

All works that are scarped at the gorge, are irrecoverable after once they have been carried, from the difficulty of their access, the security of the enemy, and the impracticableness of attacking them ; for as they have only a small passage, and frequently a stair-case, so narrow as to admit but one man at a time, the assailants from the garrison will be destroyed as fast as they appear ; they must of necessity, therefore, be totally abandoned, when once the enemy has got possession of them, because to attempt to retake them afterwards, is only sacrificing the lives of your soldiers to no manner of purpose.

What I have been saying is sufficient to make it appear, that the besieged have no opportunities more favourable to them, for distressing the enemy, during the course of the siege, than those which are furnished by their own works, so long as they can keep up an easy communication with them.

Many people imagine, that when once a breach is made in a work, it must be abandoned, as being no longer tenable : it is certain indeed, that, in such a case, one can scarcely be able to prevent the enemy's making a lodgement therein ; but he may be driven out again, and so reduced to the necessity of making a fresh assault ; which he may, in like manner, be repeatedly obliged to do, because the besieged will always have the advantage in maintaining it, and must destroy vast numbers at every attack : the only effectual expedient the enemy can fall upon, is to blow it up, which will probably not occur to him for some time, and until he has miscarried in every other attempt : but if, where the ditches are dry, the works are countermined in such a manner, as to have the gallery carried quite round them, he will not be able to avail himself of the mine, so long as the be-

sieged remain in possession of them, because if he digs deeper than they have done, he must come to water.—Upon the whole, mines are productive of more dread, than real mischief, and are generally discovered, and their effect prevented.

Large works are the most servicable, for small ones are capable of but little use or resistance, because they are so soon ruined and destroyed.—There is a very good way, in wet ditches, of retarding the construction of the gallery over them; which is, by having large boats covered with thick planks, and filling them with armed soldiers: it will be impossible, that it can be carried on, so long as the workmen continue exposed to certain destruction from the party posted in these boats, which will always approach quite close to them, before they fire. Being made musket-proof, the enemy's small-arms will have no effect upon them, in consequence of which, they will be obliged to raise a battery at the salient angle of the ditch; but after a few fires, that will cease to be formidable to them, as they can presently get under cover, and the cannon can do but very little mischief in plunging.—There are no practicable means of obstructing the passage of the ditch, but by the use of these boats, unless holes are made through the revetement, and guns planted behind it to scour the surface.

CHAPTER II.

Reflections upon War in general.

AS I take objects just as they occur to my imagination, so the reader must not be surpris'd at my quitting the subject of fortification in this place, to resume it in another; for it appeared to me necessary to make the following digression, before I entered into a more minute and circumstantial account of things.

Many

Many persons are of opinion that it is advantageous to take the field early ; in which they judge very properly, provided there is any important post to be seized, or enterprize to be executed, which may require it ; but otherwise, I am far from concurring with them, and think there is no occasion for such precipitate measures, but, on the contrary, that it is even prudent to remain in winter-quarters much longer than the usual time. The enemy's being suffered to lay siege to a place, is of no signification, because he will thereby only weaken and dispirit his troops ; and if you fall upon him towards the Autumn with an army well disciplined and in good order, he must infallibly be ruined.

I have always remarked, that a single campaign reduces an army one third at least, and sometimes one half ; and that the cavalry in particular, is in so wretched a condition by the beginning of October, as to be no longer able to keep the field.

I would therefore continue in quarters, till about that season of the year, harrassing the enemy in the mean while with advanced parties and detachments, and towards the end of a laborious siege, attack him with my whole force ; at which time I should have considerably the advantage, and soon oblige him to make his retreat : but as even that would be difficult for him to execute in the presence of an army like mine, quite fresh and in vigour, he would probably be reduced to the necessity of abandoning his baggage, artillery, and some part of his cavalry, the loss of which would prevent his making so early an appearance in the field the ensuing year, and render him afraid perhaps, if not incapable, of doing it at all.——This may be accomplished within the space of a single month, after which you return to quarters, with your troops in good order, as well as spirits ; while those of the enemy are depressed, and ruined. It is moreover the time of harvest, when the barns will be full of grain, having therefore gained a superiority in the field, you may march into the enemy's country, and there subsist your army during the winter,

which season of the year is far from being so destructive to troops, as is generally imagined: I have made several winter-campaigns in very severe climates, when both the men and horses continued in better condition, than in the summer; for those who are subject to no disorders, have no occasion to be particularly apprehensive about any on account of the time of year, unless it should be attended indeed, with more than usual severity.

Such situations are to be found, as will admit of cantonments for a whole army, and in which it may be very secure from being insulted by the enemy, provided the disposition is judiciously made, and a proper communication preserved between the posts. Provisions will not be wanted for present consumption, but some management is required in the method of procuring supplies for future exigencies: an experienced general, so far from maintaining the troops under his command, at the expence of their sovereign, will, by raising contributions, secure their subsistence for the ensuing campaign; so that being well lodged, clothed, and supported, they will consequently be easy, contented, and happy.--- In order to accomplish this, it will be necessary to fall upon a method of drawing supplies of provisions and money from remote parts of the country, but without fatiguing thereby the troops too much: large detachments are exposed to the danger of being cut off by the enemy; are likewise detrimental to the service, and rarely productive of those advantages which are expected from them: the best way is to transmit to those places, from which contributions are required, circular letters, threatening the inhabitants with military execution, on pain of their refusal to answer the demand made from them; which ought at the same time, to be moderate and proportionable to their several abilities: after which, intelligent officers must be selected, and detached with parties of twenty five, or thirty men, allotting to each a certain number of villages, and giving them strict orders to march by night only, and not to plunder, or commit any manner of outrage on pain of death.---When they arrive at their appointed places, they must send a non-commissioned officer and two men
in

in the evening to the chief magistrate, to know if he is prepared to take up his acquittance, which will be given under the hand and seal of the commander in chief of the army; if he answers in the negative, the commanding officer is not thereupon, either to plunder the place, or to take the sum required, but must discover himself, and his party, set fire to some detached house, and afterwards march away again, threatening, at the same time, to return, and burn the whole village.

All these parties are to be assembled at some rendezvous, before they are dismissed, where a strict enquiry must be made into their conduct, and those who are found guilty of the least rapine, be hanged without mercy: if any officers likewise are convicted of having taken, or received money from the villages, they must be punished with death, or cashiered at least. But if, on the other hand, it appears that they have properly executed their orders, they must be rewarded accordingly: this method of raising contributions will thus be soon rendered familiar to the troops, and all the places that have been summoned within a hundred leagues in circumference, will not fail to bring their stipulated quantities of provisions and money; for the calamities they have been threatened with, in case of their delay, will augment their fears to such a degree, that they will be very glad to purchase their security, by discharging the demand made upon them, notwithstanding any prohibitions which may have been issued by the enemy to the contrary.

Twenty parties detached monthly will be sufficient to accomplish the whole affair, neither will it be possible for the enemy to discover them, notwithstanding his most diligent endeavours for that purpose, provided they make use of the proper precautions on their march, and adhere to their instructions.

Large bodies of troops detached on these duties, encompass in the execution only a small tract of country, and spread distress in every place where they appear: the inhabitants conceal their cattle. and effects from them,

them, and can hardly be compelled to surrender up any thing, because they are very sensible, that their stay can be but short; and that, as they take care to send the earliest intelligence of their situation to the enemy, he will soon relieve them; a circumstance by which such large parties have frequently been obliged to retreat with all the expedition they could, after having totally miscarried in their undertaking, and left several of their men behind them: but even when they meet with no interruption from the enemy, the commanding officers, either influenced by fear, necessity, or self-interest, generally enter into some composition with the inhabitants, and return with only a small part of what was demanded; and with the troops much harassed, and out of condition.

This is the usual consequence attending this method of raising contributions, while, on the other hand, that which I have been proposing cannot fail of success.

In order, moreover, to render the payment as easy as possible to the inhabitants, they must only be required to make it monthly, in such shares and proportions as the commander in chief shall appoint; in consequence of which indulgence, added to their apprehensions of having their habitations burnt, unless they comply therewith, they will assist one another, and be able to advance the whole with much less inconvenience, and distress; those who are at the greatest distance disposing of their properties in order to bring their respective contributions in money, and those which lie contiguous, furnishing theirs in provisions.

These parties must either be very unfortunate indeed, or else very imprudently conducted, if they fall into the hands of the enemy; because with twenty five, or thirty men on foot, one may traverse a whole kingdom with security: when they find themselves discovered, they must immediately march off the ground; for the enemy will be deterred from pursuing them far, particularly in the night-time, by the apprehension of falling into an ambuscade; a circumstance which might very well come to pass, especially

especially when several of the parties have agreed together upon certain places of appointment to assemble at, in case of such accidents.

Nothing can be more entertaining than these incursions, and the soldiers themselves will certainly take pleasure in them.

This puts me in mind of my being attacked in the year*1710, by a party of French, between *Mechlin* and *Brussels*: three days after which, another consisting of fifty men entered *Alost*, which is five leagues from *Brussels*, at noon day, and carried off my baggage; I was likewise very near being taken prisoner myself, notwithstanding there were, at the very moment in which this happened, fifteen hundred men at the gate of the town, waiting for their billets, that were making out at the Magistrate's.

It was dangerous to go by water from *Brussels* to *Antwerp* without a pass, or even to walk in the suburbs of any place, without the hazard of being carried off by the enemy: although it was now the depth of winter, and the allies were masters of all Flanders; of *Lisle*, *Tournay*, *Mons*, *Douay*, *Ghent*, *Bruges*, *Ostend*, and all the barrier-towns; and had an hundred and fifty thousand men dispersed in these different garrisons, nevertheless the French partisans plundered the whole country; an example which sufficiently proves the possibility of what I have been advancing in regard to parties, and at the same time confirms me in my opinion of the success that must infallibly attend them.

The princes that have made war in poland would never have ruined their armies, if they had had recourse to this method of carrying it on. If *Charles* the XIIth had not entered Saxony, he must have been undone; those who saw the Swedes at that time, will concur with me in the reality of this. If *Gustavus Adolphus* had taken possession of proper posts, and

* The Marechal was at that time a volunteer in the Allied army.

subsisted his army in the manner I propose, he might have supported himself in this kingdom during his whole life, and have even been able to augment his troops in it at the same time: which persuasion of mine, has induced me to draw the following plan of operations for the use of any power that may be engaged in a future war with it.

A Description of Poland, together with a scheme for carrying on a war with that Republick.

Poland is an open, and extensive country, without fortified towns, well peopled, and abounds in grain, cattle, and all the necessaries of life: it has plenty of wood, a number of large rivers, all which are navigable, and great sums of money: the air is wholesome, it is entirely free from those disorders which are peculiar to other climates, foreigners enjoy as good health in it as the natives, and it is altogether adapted by nature for the seat and support of a war.

The Polanders make war in such a vague and irregular manner, that if an enemy makes a point of pursuing them, he will thereby be presently rendered incapable of opposing their continual inroads: it is much more prudent therefore, not to pursue them at all, but to possess himself of certain posts upon the rivers, to fortify them, to erect barracks for his troops, and to raise contributions throughout the provinces, in the manner I have above recommended.

The whole kingdom united is not in a capacity to take a well-palifaded redout; for it is furnished with no artillery, no ammunition, nor even any of the materials which are necessary for a siege; and it is moreover impossible that it can ever be otherwise, so long as the government remains upon its present establishment. The reality of this, is what nobody that is at all acquainted with the matter will dispute: but although they even were supplied with all kinds of warlike stores, they would not keep them for any continuance.

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As the country is very open, and the national troops belonging to it consist entirely of cavalry, all the powers which have made war upon it, have therefore imagined that cavalry was the only proper force to be employed in it: this notion of theirs exposed them to the unavoidable necessity of perpetually changing their situation, in order to be able to subsist; and of frequently dividing their army, and detaching large parties to procure provisions; which the Polish horse, being extremely light, attacked upon their march, and although they did not defeat them, yet by continuing to pursue them, and seizing every opportunity to repeat their insults, they consequently harassed them to a very great degree, and in the course of time ruined them. But in order to give an idea of their method of fighting, the following relation of two affairs which happened during the last war between the Saxons and Polanders will not be unseasonable.

In the year 1716, a part of *Poland* suddenly took up arms, in order to drive the Saxon troops out of the country, which were at that time dispersed about in different provinces: the crown-or republican army, consisting of twenty thousand men, invested the village wherein the Queen's regiment of horse was quartered, which surrendered upon terms, without making any manner of defence, and was a few hours afterwards cut to pieces in cool blood: after this massacre, they attacked two regiments of dragoons, who, having had intelligence of it, were on their march to join the other Saxon troops: these, dreading the consequence of capitulating from the treatment which had been shewn to the Queen's regiment, not only defended themselves with obstinacy, but totally defeated the whole Polish army, and took above twenty pairs of kettle-drums, together with great numbers of standards and colours. This action happened near a village called *Tornos*, between *Cracow* and *Sendomir*, under the conduct and command of Mr. *de Clingenberg*.

At the time when these affairs happened, I was on my march to *Jarislav* in *Lithuania*, in order to assist in extinguishing the flame which

bursting out in that quarter; and having left a party of eighty horse at *Jarislaw*, to receive some contributions which were due from thence to the troops, the confederate Polanders invested the place, (which is a small town surrounded with a weak rampart) made three general assaults, and were repulsed at every one: at the expiration of fifteen days, the commanding officer of the party, whose name was *Heckman*, having consumed all his provisions, offered to treat about the surrender of the place; and, after a great many messages backwards and forwards, he was allowed to march out with all the honors of war, and a waggon in which he had forty thousand crowns; an object very tempting to the Polanders, who nevertheless suffered him to pass, but after two days march, detached eight hundred horse in pursuit of him, who soon overtook him; these he engaged for six days, without discontinuing his march, and at length joined me near *Warsaw*, at the distance of a hundred leagues from *Jarislaw*, with his waggon that contained the money, sixty eight of his men, and two pairs of kettle-drums which he had taken on his march, without ever suffering himself to be broken, and having only lost sixteen men during all his different engagements. This account may perhaps appear fabulous, but it is nevertheless totally genuine; and I could also produce several other of the like instances, but imagine these will be sufficient to furnish a proper idea of this people, and their method of fighting.

It becomes therefore no longer surprising, that those who have carried on war against the Polanders, should be obliged to separate their troops, and to make continual, and very often forced marches, to be able to overtake them; and sometimes even to procure the necessary supplies of subsistence; all which is notwithstanding attended with nothing but loss and disappointment, for they are so extremely light, as frequently to march thirty, and sometimes forty miles in a day in large bodies, and by the means of such expedition fall upon you, before it can be possible for you to receive any intelligence of their approach, or be prepared to receive them.

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The only effectual scheme for their reduction, is, to avoid pursuing them, and to secure those posts which are properly situated, from whence one may be able, by parties of infantry, to subject the whole country round about to contribution: as there is abundance of wood upon it, one may as well, if I may be allowed to make use of the expression, seek for a needle in a bottle of hay, as endeavour to find out these parties; and although they are discovered, the only consequence is their being exposed to the distant fire of small-arms: but unless they enter the villages by day, and loiter away their time in drinking, it is almost certain, that they will perform their expedition without being even perceived.

The Polanders will soon abandon the country, contiguous to these posts, influenced thereto by this new, and unusual method of carrying on the war against them, as well as by the extreme dread they naturally have of infantry; the fear of being surprised by which, will prevent their taking post in towns, an event they have no manner of occasion to be apprehensive of from cavalry, both because it is heavy and embarrassing in itself, and that it is impossible also for it to keep the field without being discovered by the Priests, and others of the country people, who would immediately afterwards carry the intelligence with all the haste they could to their own party; insomuch, that you might take it for granted, that you would be constantly attended on your march, by those who only waited for opportunities of exposing you to difficulties, and picking up your stragglers.

The proper posts to be secured, are as follows: in the first place, the point of *Werder*, near *Marienburg*, where the river *Vistula*, or *Weisel* divides its course; by the possession of which you become master of *Polish Prussia*; of *Werder*, a rich, plentiful, and well-peopled country; of *Dantzick*, *Elbing*, *Marienburg*, and *Koningsburg* in your rear; all which are places, that, in a manner, swarm with Germans; that abound with merchandise and artificers, and that will supply you with good recruits.

Koningsburg

Koningzburg and *Dantzick* are two Port-towns, where great numbers of ships arrive from all parts of Europe, by means of which you may be easily furnished with officers, and all sorts of military stores, (the last of which are very scarce in *Poland*;) and at the same time render the procuring of them very difficult to the enemy.

The natural situation of this post of which I am speaking is vastly strong and well adapted for defence; the *Weisel* runs large in this part, and forms almost an island of it; for the fortress which should be built upon it, would be accessible only by a very narrow neck of land, two leagues in length, to make any attack by which, would be only throwing away a great many lives without any manner of effect. Two small forts, one erected upon the right, and the other upon the left of the river, would render the investing of the place in a manner impracticable to the *Poles*; because it would be absolutely necessary for them to have three large bridges of communication; which is a piece of work far from being easy to execute, not only by them, but by any other power more capable.

These forts would soon be erected, for *Poland* is the best country in the world for the expeditious construction of fortifications; the soil is soft, and there is great plenty of firs, which are palisades ready made in a manner, little more being required than just to cut them down, and to plant them; they are in general a foot in diameter, and sometimes more, which will render them more difficult to be demolished by the enemy. The Caserns being made of this wood, will be extremely wholesome and warm in winter; and as the walls of them are likewise to be composed of it, they may be raised in a very short space of time, and without expence; as may in like manner Magazines, Souterrains, &c. because hatchets will be the only instruments required, and the soldiers themselves will be capable enough to erect them, especially if superintended and directed by officers of some ingenuity

ingenuity.—But I shall take another opportunity to treat of the construction of these works.

I should leave five thousand men in this post, which would be a sufficient number to secure the possession of it; and from thence proceed ten leagues, where I would take post again upon the *Weisel* at *Graudents*; this is a small city, situated on an eminence in a marsh five or six leagues in circumference, and the road to it is only by a cause-way, which must consequently render it a very tenable and strong post: here I would station a thousand men; and then move into an island which is formed at the junction of the *Bug* with the *Weisel* near *Thorn*, where I would erect a post for five thousand men: the situation of this place, makes it of infinite importance, for the *Bug* is a large navigable river, upon which all the trade of lower *Lithuania* is carried on.

From hence I would march to *Janowiecz*, leaving a thousand men there: and after that, to where the river *Sonna* falls into the *Weisel* near *Sendomir*; erecting in this place a post to be occupied by five thousand men: the *Sonna* supports the commerce of a part of *Polish Prussia*, which is a considerable addition to the natural strength and advantage of this situation.

One thousand should be posted in an island lying between *Sendomir* and *Cracow* near* *Soles*. Five thousand in the city, and castle of *Cracow*. One thousand at *Zamoscie*, upon the left of *Sendomir*; and five thousand at *Limberg*. At *Bransaliteski*, one thousand; the situation of which post renders it impregnable. Five thousand at *Pintschow*. One thousand at *Zideswiloff*. One thousand at *Dolbinow*, upon the river *Wilia*. Five thousand at *Kowno*; which is an incomparable post, and as strong as any I have ever met with; it commands the two rivers that join contiguous to

* This seems to be the *Polanietz* in the last *Berlin* map of Germany, and the *Polaiez* in that of Moll.

it, and which afterwards continue their course together, till they fall into the *Curische-Haff*. Six thousand must be also posted at *Posnan* in great *Poland*.

The whole country would be so effectually covered by this disposition, that it must infallibly be reduced to the necessity of submitting patiently to the yoke, and the number of troops moreover required, to form it, amounts to no more than forty eight thousand foot, besides three thousand, eight hundred horse. Two campaigns would be sufficient to complete this conquest, neither would it be attended with any manner of expence to the conqueror, because he might raise large contributions, which, by demanding only small sums from individuals, would be paid without distressing the country. A calculation has been made, that the payment of a *Timpfe* (which amounts to fifteen pence in French money) for every tun of beer that is consumed in *Poland*, would produce a fund sufficient for the support of three hundred and fifty thousand men; from which one may form an idea of the greatness of this kingdom, and the number of its inhabitants.

I am moreover persuaded that this conquest might be made, without even fighting a single battle: for the troops, instead of being continually engaged in pursuits and marches, should be employed in fortifying and improving the works of their respective posts; and there being, as I have before observed, great abundance of wood in every part of the country, one might erect such works, as would surpass the best reveted places in strength. After having therefore once established these posts, which I can foresee no sufficient obstacle to prevent, I should despise the combined force of *Poland*, and likewise that of all such other powers as might undertake to relieve it. By the command of the rivers, I should be enabled to furnish my posts occasionally with provisions, and an enemy would hardly penetrate into the country, and leave them behind him; because he would thereby expose himself to great inconveniences: from whence could
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he procure the necessary supplies of all kinds for the service of the war, and the subsistence of his army? The interior part of the country could not possibly support him long, which having soon exhausted, he would consequently be thereby obliged to change his situation: but what course must he take, or which way turn his arms, unless it be to lay siege in form to these forts, the reduction of which nature and art have conspired to render impracticable?

In short, neither the Tartars nor Turks would be capable of preventing the conquest of the kingdom under these circumstances; for it would require all the forces and wealth of *France*, *England*, and *Holland*, united. The Turks are the richest neighbours of *Poland*; but they are notwithstanding less formidable than the Russians.

Although I have said, that forty-eight thousand men would be a sufficient force to subdue all *Poland*, nevertheless, what is there to prevent my having an hundred thousand, if necessary, after I have once established myself? Is not the country both able to furnish, and to support such an augmentation? Or, must it be objected against, because it will be composed of Poles only, as if by nature one man was not as good as another? It is discipline and skill which alone constitute precedency in armies, and those who imagine, as I have before observed, that the Roman legions, consisted entirely of Roman citizens, are much mistaken in their opinion, because they were recruited from all nations. One and the same discipline was ordained for the whole, which being good in itself, consequently rendered the troops so, that had been inured to the practice of it; and that more especially, when they were conducted by men of abilities.

Troops may be raised in *Poland*, with as much facility as contributions, nothing more being required than to demand a man per parish, or village: but as soon as they are delivered, the marks of the particular centuries to which they are severally appointed, must be fixed upon them, that they

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may be readily known upon occasion: this will be the means of preventing their desertion, because neither their own parishes, nor any other places will be able to afford them security; but in order to mitigate the evil to which they are thus exposed, let their time of service be limited; in which case, one ought to abide by the agreement made with them.

In time of war, it will be impolitic to enter into any kind of conference with the inhabitants, for the sole view on their side will be to trifle with you, to deceive you, and to free their country from contribution. The true secret to subdue them, is to listen to no overtures from them; and, above all things, to avoid accepting of their troops, which are good for nothing but to embarrass you, and will be subject to all sorts of irregularities in their quarters: at first, tempted by the prospect of advantage, they will offer their service to you in crowds, but as soon as they perceive themselves disappointed in their expectations, will throw off the mask, and so leave you to repent the having furnished them with means of plundering their own country; which they are always ready to do, without the least remorse or reluctance.—But you moreover become accessory, in a manner, to your own destruction, by consenting to incorporate them in your army, for when it comes to action, they will soon turn their backs, and, leaving intervals in the ranks, will thereby unavoidably disorder your own troops; instances of which kind we have but too frequently experienced.

With regard to artillery, it is necessary to be furnished with a large stock of iron six pounders, which in *Sweden* are good, in great quantities, and very cheap: the carriages for them may be also made there, and the whole, when compleated, be from thence transported upon the *Weisel* to the different forts.

After having erected these posts in the situations already described, it will be no difficult task to bring the inhabitants to your own terms, because

cause you'll have it in your power to put a stop to all manner of communication and intercourse between them. You may threaten them with confiscation of their lands, unless they surrender themselves up within such a limited space of time, which, together with any other methods that may be made use of to accelerate their reduction, cannot fail of the desired effect; for finding themselves surrounded, and exposed to distress from all quarters, they will be very ready to submit. You can therefore offer what terms of accommodation you please; can impose your own laws, and see them carried into execution.

Thus I have made it appear, how practicable it is to subdue this republic in two or three campaigns at most, with a small army, and at a trifling expence; and possibly the situation of affairs may one time or another render such a project necessary.

But I don't intend to leave this subject, without returning to that of fortification, and describing the method I most approve of for the construction of these posts. My system is founded upon that of the king of *Poland's*, which appears to me preferable to all others; and is certainly particularly well calculated for this country, which, as I have already more than once remarked, has great plenty of wood; add to which, that such fortifications will be attended with no expence in erecting, may be secured from the insults of an enemy in a few days, and in a month rendered capable of sustaining a long siege.

In treating upon the succeeding subject, I shall adhere to the rule that I have prescribed for myself in the course of this work, which is first to expose the errors and defects of the present practice, before I recommend any change or innovation in it.

Although we excell the ancients in fortifications, yet we are far from having arrived at that perfection, which this branch of the military art will

admit of.—With regard to myself, I am not so vain as to think that I am possessed of any uncommon share of knowledge in it, nevertheless I am not to be imposed upon by the exalted names of Mess. *de Vauban* and *Coeborn*, who have consumed immense sums in the fortifying of places, without having made any addition to their strength; at least, any that was material, or proportioned to what might have been expected, as is evident in the circumstance of their being taken with so much ease and expedition.

We have modern engineers, so obscure in themselves as scarcely to be known, who have notwithstanding profited by the errors of those two mighty masters, and are infinitely superior to them; but who at the same time only hold the medium as it were, between the deficiency of their practice, and that point of perfection which one should endeavour to arrive at.

Without entering into a miserable detail of all the little works, which they have invented, I shall at once discover the capital defect of their system.

They have erected their fortifications in a kind of amphitheatre, in order to be able to fire from every part of them, as if the besieged could make use of a retired work, so long as their own troops occupied another immediately before it: to what purpose therefore are they raised so high? the consequence of which is, that being thereby so much exposed, the enemy destroys them as soon as he has finished his second parallel, and erected his batteries: a day or two are sufficient to do it; thus then are all your defences ruined, your cannon is dismounted, and this boasted fortification rendered incapable of obstructing the besiegers; for their batteries being low, and firing at an elevation from the horizon, must raze and demolish every thing: as the besieged are therefore discouraged, and afraid to shew themselves, the enemy carries on his approaches very fast, and soon arrives upon the glacis: at the covert-way he perhaps meets with some difficulty and obstruction, but as it is only defended by works that have been already
much

much damaged, he soon renders himself master of it, makes lodgements, and raises batteries in it, which totally ruin the defences of the place. If there are any low flanks, batteries are erected upon the salient angles of the ditch, because that being parallel with those flanks, and they moreover very narrow and confined in front, they are presently destroyed. Where there are casemates likewise, they are stopped up, and the embrasures are in a short time ruined by the artillery. Thus the besieged are no longer in a capacity to prevent the enemy's passage over the ditch.—With regard to a breach, it is soon made in a work, let it be ever so high or formidable; after which the besieged have little more to do, than to withdraw their troops, and to give it up; for as it is scarped at the gorge, and has only a stair-case, or narrow passage into it, it is impracticable to attack it again, when once taken; and this difficulty of access, at the same time that it renders it irrecoverable to them, serves to fortify and secure the besiegers in it; the party sent to possess themselves of it is but small, because the enemy knows it must be abandoned; and as the defences behind it are levelled and destroyed, they lodge themselves in it without any opposition or loss; instead of which, if the communication between it and the main body of the place was easy, he would be obliged to send a very large force, to make a considerable lodgement, and to sustain a great many assaults in the maintaining of it, which would be attended with the destruction of great numbers of his troops.

These defects having been in part discovered, the grazing * fire was introduced, in order to remedy them, but the original imperfection of this plan of construction is such, that the inconvenience must always subsist: for if from the body of the place you see into the country, and upon the glacis, over your advanced-works, the enemy must consequently command as good a view of you, if not a better; and although he does not ruin all your defences there, yet he at least prevents your being able to make use of them; which it is moreover impossible for you to do, without destroy-

* See plate 19.

ing your own troops, so long as you have any in the out-works before them: to what purpose is it therefore, to have a prospect upon the glacis from the body of the place, since it can be serviceable in no other respect, than to defend those works, which are immediately before it? for while you remain in possession of the out-works, you are prevented, as I have just above observed, from firing upon the glacis; during which time, the enemy has the advantage of playing his batteries from thence, to level both your detached defences, and those of the main body of the place.—If, on the other hand, its fortifications were lower, the besiegers, in order to destroy them, would be obliged to erect fresh batteries against every distinct work, which would prove no easy task in the execution; especially if the works were less spacious in proportion as they were further advanced towards the country; and constructed in such a manner as to have communications by which they might be easily attacked again, after they have been carried by the enemy. But in order to convey a more perfect idea of my proposed method of fortification, I have annexed a * plan and profile of it, to which I shall refer the reader. The erecting of an entire Fort is no more than a month's employment for one Legion, as will appear by the calculation that is made in the succeeding part of this chapter.

When the enemy attacks me, he will, as usual, carry my covert-way, and destroy the defences of my counter-guard and lunettes; yet as long as I have my casemates free in the re-entring angle of my counter-guards, how will he be able to pass the ditch, in order to assault them? Perhaps it may be answered, that his batteries will destroy them; but that is far from being so easy to accomplish as might be imagined, for he will not be able to plant above two or three pieces of cannon upon the salient angle of the counter-scarp; and, in carrying on his approaches against the batteries of my casemates, he must sustain a continual fire of an hundred, from the bottom of the ditch, and the salient angles of my counter-guards and

* See plate 20, and 21.

lunettes:

lunettes: will it be therefore practicable for him, exposed both night and day to so dreadful a fire, which it will moreover be impossible for him to put a stop to, to erect his gallery over the ditch?

It is a maxim in engineering, that one cannot command any situation, without being at the same time commanded by it, which principle has been hitherto strictly adhered to, without reflecting, that the business is to oblige the enemy to expose himself in places, where there is but little ground to occupy; where he can be overlooked by a larger front, than he is able to withstand; and where it is moreover impracticable for him to erect any batteries in his defence.

All this I am enabled to accomplish by means of my open casemates, for I command the ditch, and there is no possibility of his raising a battery to play upon, or dismount either those which are thus planted upon the surface of the water, or those of my ravelins, because they are covered by my counterguard. I can moreover repair in the night-time all the damage that may have been done to my casemates; and in case they are blocked up with rubbish, my cannon itself will be sufficient to open a way through it.

As the passage of the ditch is by these means rendered impracticable to the enemy, his only resource is to fill it up; but I shall likewise presently destroy that work, as well as any batteries which he may have raised upon the salient angles of the ditch.

These floating batteries of mine, represented in plate 22, are capable of very great use, and fire with prodigious exactness: it is hardly possible to lose a single man in serving them, otherwise than by accident; and the guns being under cover, are consequently pointed with attention and care.

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The peculiar method of constructing these * casemates is such, that they are infinitely more difficult to ruin than the arched kind, because that the cannon can only effect the first and second beam; that the others, which it cannot reach, always support the terre-plein; and that the length of them in proportion to the breadth of the embrasure is such, that those which are cut, bear the weight of the earth, because this weight, which rests upon the two ends, prevents their bending either in the center, or the place where they are cut; whereas with regard to the arched casemates, one has nothing to do but to fire at the key-stone, and the whole must presently fall to ruin.

I have moreover invented a method to prevent the enemy from being able to see the cannon of my batteries, till the moment in which they are fired, a figure of which is represented in plate 23. Two or three men to a gun are sufficient, who are at the same time sheltered from the artillery and ricochet-firing of the besiegers by means of my traverses: they will be of great use in the covert-way, to ruin their batteries in the day-time, and during the night to fire grape-shot at the head of their approaches: with each of these guns I also plant ten amusettes, to keep up a continual discharge into the embrasures of their batteries, which, as they will pierce at the distance of a thousand paces all the mantlets and blinds in their way, will, I am persuaded, render it at least extremely difficult, if not impossible, for the enemy to serve their cannon.

But let us suppose that the besiegers have passed the first ditch, and made a lodgement upon the counter-guard, he will there all of a sudden discover a vast number of guns, planted *en barbet*, which will fire upon him on every side, in a situation where it will be impossible for him to erect batteries to defend himself, and where he will be exposed to the defences of my ravelins, which as yet will not have sustained the least damage: in what manner therefore can he avail himself of the possession

* See plates 24 and 25.

of this work? for having only a foot or two of earth above the beams, and being likewise overlooked by two large faces, he will never attempt to bring any artillery into it. Will he plant two pieces of cannon upon the salient angle of the counter-guard, to dismount forty-four that are upon my two faces; together with the four hundred and forty amusettes, which command him, and force a passage through all gabions, sand-bags and blinds that are opposed against them? Where then will he be able to raise his battery? for the passage of the ditch will remain impracticable to him, till he has first made himself master of my casemates. Perhaps it may be observed, that, by setting the miner to them, they may be ruined; but it will be found otherwise in the execution: the only expedients therefore which seem to remain, are either to set fire to them, or to destroy the piles under water, both which are equally as impossible.

But even grant that he has made himself master of my casemates, I shall soon demolish them with my floating batteries; he will then have only a part of the parapet remaining, and in order to raise batteries, he will be reduced to the necessity of fetching earth from a great distance for their foundation, which is a work that must be accompanied with no small difficulty and inconvenience.——Nevertheless, let us even suppose him to have surmounted it; for assiduity and time, according to the proverb, will accomplish every thing: yet I insist upon it, that he will be obliged to fill up the front of two entire polygons, and the ditch of the counter-guard, (for which even the total demolition of it will not furnish sufficient materials) before he can be able to erect his batteries; from which one may form a judgment of the difficulty that must attend the construction of them: and after having accomplished all this, how can he pass the ditch, in order to attack my ravelins; for my guns, which he will never be able to dismount, scour the salient angle?——But suppose that he has even succeeded so far, as to have made a lodgement in one of these ravelins, how will he maintain himself in it? He will find himself all at once quite open and exposed to the fire of an entire polygon, in the ditch before which I can likewise post three or four battalions, sword in hand, which it will be imprac-

ticable for him to oppose with an equal number; or even with two battalions, let his lodgement be ever so advantageously effected; which battalions will moreover be obliged to enter by files through the breach, and must be destroyed as fast as they advance, by four or five pieces of cannon, loaded with grape-shot, that scour the passage from the adjacent flank. I shall be under no apprehensions concerning the success of my sallies, for provided they are repulsed, they may retire to the foot of the body of the place, where all my troops will be secure under arms, and from whence the enemy will be exposed to a very severe fire.

I have always had in my head that remarkable instance of a certain work, that was taken and retaken at the siege of *Candia* thirty-six different times; and which cost the Turks above twenty-five thousand men; a circumstance that has given me a great opinion of such, whose construction will admit of their being attacked, and recovered, after they have been lost. There are no opportunities, during the course of a siege, more favourable to the besieged for engaging the enemy, and retarding his approaches, than those which are furnished by works of this kind; because the former are exposed to no danger from without, at the same time that the latter is always obliged to enter by the breach; and if he brings any cannon into them, he is sure to lose them.

In short, I am disposed to think, that the attack of a fort, constructed upon this principle, would not a little diminish that rage for sieges which prevails at present. — One should at all times endeavour to have a wet ditch, if possible, to prevent the enemy from being able to make his passage by the sap, or in any other manner than by galleries erected over it.

This * Fort will contain ten thousand men at least, and one legion is more than sufficient to defend it: the time required for the erecting of it,

* The building of this kind of Fort is not practicable, but in places abounding with wood: but it may be erected upon the same system without wood, provided the construction of the counter-guard is such, that the enemy will not be able to make a lodgement in it: a strong brick wall, with scaffolds raised behind it, will be sufficient for a counter-gard.

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may be seen in the calculation which follows : my casemates will not take up much, because they are only built with beams cut all in one piece ; but although even two months are consumed upon it, and eight or ten thousand men at the same time employed, the labour attending its construction, will nevertheless be amply repaid by the strength and importance of it.

All the faces must be reveted or lined with quicksets, which will support the earth prodigiously, and render it unnecessary to allow much talus to the works ; for the thorns being planted in rows, and their roots branching out and penetrating as far as the terre-plein, consolidate them to such a degree, and so effectually break the force of a ball, that I may venture to pronounce it impossible to make a breach in them.

It is moreover very difficult to escalate, or surprise a work thus defended, especially if the berm is well palisaded and fraised. The souter-rains will hold the troops, cattle, provisions, and all such other necessities as regard the subsistence and service of an army. If to these advantages of art, we join those which nature affords us in certain situations, one may easily conceive how practicable it is to erect forts of the greatest strength, especially when we add out-works to them ; for the larger and more extensive places are, the more troops will consequently be required to besiege them ; such for instance as are *Lisle*, *Brussels*, *Metz*, &c. which demand armies of an hundred thousand men to invest them : but then great numbers are necessary in like proportion to defend them.

I have invented a project, capable of remedying that defect and inconvenience peculiar to small places, of being invested by small numbers, which will render the siege of one of my forts impracticable with less than a hundred thousand men : this is, by advanced towers, which are infinitely superior to redouts, that a great many make use of only to extend and enlarge a place ; and that are soon carried by the enemy, unless one chooses to risk the loss of both artillery and troops in maintaining them : their de-

fence moreover requires great numbers of men, which must very much fatigue and weaken your garrison.——I erect these towers two thousand paces from my fort, because I shall be able at that distance to batter them with my cannon, after they have fallen into the hands of the enemy. They are to be built of brick, and in such manner as only to have a single wall on the interior side; by which I mean to divide the circumference by its diameter, making the half of that side, which looks towards the country, solid, and leaving the opposite side hollow, as may be seen in the figure *. The distance from the center of the body of the place to these towers forms a radius of three thousand paces; the circle will therefore of course amount in circumference to eighteen thousand and some odd; so that in erecting the towers five hundred paces asunder, (a communication between which must be also made by a good ditch) it will require thirty-six to encompass the whole. Nothing can possibly pass between any two of them, without being exposed to the fire of both; and although the enemy throws up lines to cover his passage, he will still be commanded by them; so that he will be reduced to the necessity of erecting batteries, and opening trenches, in order to destroy them by regular siege. Upon every one I shall plant four or five of my machines, called amusettes, which will make great havock amongst the enemy, if within their reach, and therefore prevent his encamping at any distance less than four thousand paces; which radius being added to that of my works, produces a diameter of fourteen thousand, and consequently a circumference of forty-two thousand: supposing then a single battalion or squadron to take up a hundred paces, it will require four hundred and twenty to occupy the circumvallation, and an equal number for the countervallation; which together will amount to eight hundred and forty: this is prodigious, when we moreover consider the defence which these lines will require, for it may be readily conceived such works would not be carried on without molestation.

* See plate 26.

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I would not have it imagined, that these towers may be easily demolished by barbet-firing, for the only effectual method is to lay regular siege to them; and it is likewise far from being impossible, that a battery of twenty four pounders may fire for eight days successively against one of them, without having ruined it. I have frequently seen brick towers, hollow and very weakly constructed, that have sustained the fire of twenty pieces of large cannon for three or four entire days together: and that, at the distance of four hundred paces only, without having been destroyed: but these being filled, and quite solid as far as the center, are infinitely stronger; and if the enemy advances his batteries too near, he exposes himself to be plunged into; he will therefore be obliged to fire at a great distance, and consequently be incapable of doing much damage; notwithstanding which, ten of these towers at least must be ruined, before he can carry his approaches so far as to render a single assault practicable.—Let us moreover reflect what an immense work it will be necessary for him to throw up; such, namely, as a retrenchment of eight leagues; and what a prodigious number of troops he will require to block up the place: all his posts must be constantly well defended; he must have an army of observation likewise; nevertheless it will be dangerous for him to divide his forces, and to leave the siege to be carried on by a part only; for if the intervals between his battalions are suffered to be too large, the place will be thereby left open, and supplies of every kind thrown in, as often as they are wanted.—Add to this, that the entire expence attending the construction of all these towers together, will not amount to so much as that of a single bastion, or horn-work.

Perhaps it may be proposed to set the miner to these towers, but that will be prevented by my patroles, which are perpetually to be going round the works, as well as by various other means: if he covers himself with mantlets, the amusettes will force an easy passage through them; with which I have pierced large oaks, above eighteen inches in diameter, at the distance of a thousand paces.

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These advanced towers will also answer the purpose of a retrenched encampment, affording shelter to an army upon occasion: they require but very small numbers to defend them, one officer, and eight or ten men, furnished with amusettes, being a sufficient complement for each.

I here finish the subject of fortification, which I might have dwelt upon much longer, and have spoken of various machines, and dangerous inventions, but that I think there are already too many for the destruction of mankind.

A calculation of the time necessary for four thousand eight hundred men to erect a fort according to my plan.

To form the parapets and banquets.

The first part. The excavation of the ditch.

Tois. Feet. Inch.

Length - - -	72. 0. 0	}	288. 0. 0
Breadth - - -	3. 0. 0		
Depth - - -	1. 2. 0		

The second part. The excavation of the ditch. } 581. 2. 0

Length - - -	44. 0. 0	}	293. 2. 0
Breadth - - -	5. 0. 0		
Depth - - -	1. 2. 0		

I suppose six hundred men to be here employed, four hundred of which are to dig and clear the ditch, and the remaining two hundred to form the parapets and banquets, and to trim and ram the earth: every workman will be able to clear a cubical toise of earth in a day of ten hours; the four hundred therefore, in fifteen hours, will at least clear a ditch in the front of a polygon, containing five hundred and eighty-one toises, two cubical feet; and the other two hundred will form the work: consequently four thousand eight hundred will finish the eight polygons of the fort in the same space of time.

To

To form the ravelins.

The first part. Excavation of the ditch.

Tois. Feet. Inch.		
Length - - -	72. 0. 0	} 288. 0. 0
Breadth - - -	3. 0. 0	
Depth - - -	1. 2. 0	

The second part.

Length - - -	122. 0. 0	} 1016. 4. 0
Breadth - - -	5. 0. 0	
Depth - - -	1. 4. 0	

Four hundred workmen, and two hundred trimmers will form one ravelin, according to the above calculation, in thirty hours and a half; so that four thousand eight hundred will consequently form the eight ravelins belonging to the fort in the same time.

To form the counter-guard.

Length - - -	122. 0. 0	} 1016. 4. 0
Breadth - - -	5. 0. 0	
Depth - - -	1. 4. 0	

Four hundred workmen will clear the front of one polygon in twenty-five hours, and two hundred will trim and form the work; four thousand eight hundred will therefore require no more to finish the eight polygons.

To form the lunettes, the covert-way, and the glacis.

The first part. Excavation of the ditch.

Length - - -	136. 0. 0	} 1586. 4. 0
Breadth - - -	7. 0. 0	
Depth - - -	1. 4. 0	

The second part.

Length - - -	55. 0. 0	} 275. 0. 0
Breadth - - -	3. 0. 0	
Depth - - -	1. 4. 0	

The third part.

Length - - -	18. 0. 0	} 60. 0. 0
Breadth - - -	2. 0. 0	
Depth - - -	1. 4. 0	

Forty hours and three quarters is sufficient for four hundred workmen for the front of one polygon; four thousand eight hundred will therefore make the lunettes, covert-way and glacis of eight polygons in the same space of time.

According to the above calculation, four thousand eight hundred men will be able to finish one polygon in fourteen hours and a half, and consequently the entire fort in eleven or twelve days, allowing ten hours to each.

Notwithstanding these calculations may be just, yet they must not be altogether depended upon in the execution, for I only made them in order to convey an idea of the practicability of my plan; but by adding double, or triple the same time, they will infallibly answer.

The best method of employing the workmen, is by dividing them into four reliefs, by which means the work will be carried on briskly, and the troops at the same time not be fatigued. Every soldier having only three hours labour in the day, will both perform his task chearfully and with more diligence; but then it must be accompanied with the sound of the drum, and other warlike instruments in cadence. *Lyfander* with a detachment of three thousand Lacedemonians destroyed the port of *Piræus* in *Athens* to the sound of the flute in the space of six hours. We have still some small remains of this custom amongst us, and but a few years have elapsed since the galley-slaves at *Marseilles* worked in cadence, and to the sound of the timbrel.

The workmen must throw out the earth as much as possible from step to step with their shovels, for wheel-barrows are attended with a great many inconveniencies; they are not only expensive and troublesome in conveyance, but occasion delay and interruption in the carrying on of the works: a soldier may easily throw out a shovel-ful of earth from the depth of eight feet; and when the ditch is so much deeper, as to render that imprac-

impracticable, the earth must be removed in baskets. The pioneers, in digging the ditch, must leave banquetts or steps for the labourers to rest themselves upon during the time their baskets are filling, after which they are to carry them away to the places in which they are directed to empty them: they are to be about three feet deep, and narrow at the bottom, so as to contain two cubical feet of earth, which will amount to very little more than a hundred and fifty pounds in weight; this method of carriage is less fatiguing than that with wheel-barrows, although their load is not above half as heavy; and as the form moreover of the basket resembles that of a cone reversed, the soldier has no other trouble in emptying it, than just to lean a little sideways: but all this work, as I have already observed, is to be performed in cadence, and to the sound of some instrument.

It is absolutely necessary to inure soldiers to labour; for if we examine the Roman history, we shall find that republick looked upon ease and indolence as their most formidable enemies. The consuls prepared their legions for battle no otherwise than by rendering them indefatigable; and rather than suffer them to be at any time inactive, they employed them on works that were even useless and unnecessary. Continual exercise makes good soldiers, because it qualifies them for martial enterprises; and by being habituated to pain, they insensibly learn to despise danger. The transition from fatigue to rest enervates them; it presents objects of comparison, which are difficult to reconcile in so effectual a manner, as to prevent idleness, that passion so predominant amongst mankind, from gaining the ascendant over them; from inciting them to murmur at every trifling inconvenience; and from softening their souls, after having emasculated their bodies.

CHAPTER III.

Of War in mountainous Countries.

THERE is but little to be said upon the subject of this chapter: the conduct of a war in mountainous countries requires a great deal of skill and circumspection; the passage of defiles must never be hazarded, till the eminences have been first taken possession of: this precaution will prevent ambuscades, and secure the troops, which would otherwise be unnecessarily exposed to the danger of being either totally destroyed, or obliged to retreat, after having sustained some considerable loss. If the passes, as well as the eminences, are occupied by the enemy, one must have recourse to stratagem, and make a feint attempt to force them, in order to engage his attention, and thereby procure an opportunity of discovering some other road; for however rough and impracticable mountains may at first sight appear, passes are nevertheless to be always found in being. diligently sought for: the inhabitants themselves may perhaps be ignorant of them, because necessity never obliged them to look for any; one must therefore never give credit to their intelligence upon such occasions, for, in general, they have no other authority but tradition, for the principal part of what they know concerning their own country: I have very often experienced their ignorance, and the falsity of their informations; for which reason it is necessary either to reconnoitre the ground one self, or to employ those who are not afraid of encountering difficulties; by industrious examination one is always sure to succeed, and after having discovered passes, which the enemy is unacquainted with, he will be at a loss what measures to take, and, finding that his projects have miscarried, will in the next place think of providing for his security by flight.

CHAPTER IV.

Of War in inclosed Countries.

AS in situations of this kind, an enemy must be equally as embarrassed as one self, there is therefore no great danger to be apprehended from him: the engagements which happen in them, not being general, are never decisive, and usually terminate in favour of the most obstinate; but there is one essential thing to be observed with regard to them, which is, that one's rear must be always kept free, in order to be able either to make detachments, or, in case of necessity, to retreat. A vast deal depends upon the disposition of artillery in actions of this kind; for as the enemy will be afraid to quit his posts, batteries that have been judiciously erected, must do great execution; and although he abandons them, yet, as retreats are usually attended with difficulties, he may probably become thereby exposed to at least as much danger. But as I have already observed, these affairs are never decisive; and as they are to be governed by the nature of the situations in which they happen, no particular rules can therefore be given in regard to them. Nevertheless, it must be laid down as one invariable maxim on all marches, to have parties, consisting of a hundred men, always advanced in front, and upon the flanks, which must be sustained by others of double the same force, and these again by treble the same, in order to be effectually guarded against all attempts whatsoever of the enemy.

A detachment of six hundred men may stop a whole army, for if, upon cause-ways bordered by hedges or ditches, such as are in Italy, and all wet countries, they present a large front to the enemy, he will naturally form his opinion of their strength by their appearance, and imagine their numbers much superior to what they really are. Upon Emergencies

every little hut is suddenly converted into a fortification, and frequently maintained with great obstinacy, which gains time to reconnoitre, and to form a disposition, for in countries of this kind one cannot be too cautious in preventing surprises.

A partisan of enterprise and spirit, with three or four hundred men, will find means to attack an army on its march, and to occasion a great deal of disorder and inconvenience. If he seizes an opportunity at the close of the day, to cut off your baggage, he will be able to carry away a considerable part of it, without exposing himself to much danger, because if he retreats between two passes, and makes a vigorous opposition in his rear, he will thereby check your pursuit; in case he is hard pressed, he can march all along by the side of the carriages, and the first house he finds, he will there oblige you to make a sudden halt, during which time, the baggage that he has taken from you, is moving on apace. A stratagem of this nature, practised upon your cavalry, must be attended with dreadful confusion.

It is for these reasons therefore, that advanced parties ought to cover all the avenues of your march; but they must never be too weak in numbers, for unless they are sufficient to oppose any attack, nothing less than ruin and disgrace can be the consequence, as your adversary, if he is a person of some understanding, will find no difficulty to procure persons in his army ready to undertake any enterprise, and capable of improving every opportunity to their advantage.

CHAPTER V.

Of passing Rivers.

IT is far from being so easy as may be imagined to prevent an enemy from passing a river ; and it is moreover what he will be able to do with less difficulty in his advance to attack you, than he will in his retreat : in the former of these cases, he shews his front, which is at the same time supported by a proper disposition, and a large fire of artillery : in the latter, he exposes his rear, which it is always very dangerous to do ; but the more so here, because that he is in a hurry ; that this sort of disposition is never made with so much care, as that which precedes the action ; and that all men in a retreat, contract a degree of fear, which in a manner reduces them to the state of being half defeated ; a circumstance that is difficult to be otherwise accounted for, than by being ascribed to the natural imbecility of the human heart.

One method of passing rivers is with a flank presented to the enemy ; which is what Prince *Eugene* was suffered to do three times in two days in the presence of the Duke of *Orleans* before the battle of *Turin* : the ground between the two armies was level, and there was an advantageous opportunity of attacking the enemy even with superior numbers, notwithstanding which, it was neglected, and the siege of *Turin* in consequence obliged to be raised.

In a situation like this, the enemy that comes to relieve the place, must always have the advantage, unless the siege is raised in proper time for the besiegers to march against him : the engagement moreover will never be general on his side, but quite the reverse on theirs ; because the former has all his troops assembled together between two rivers, his flanks being
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secured, and his army formed in deep order; while, on the other hand, the latter are dispersed, and incapable of making so strong a disposition; if therefore they are repulsed, their lines are immediately exposed to be flanked, and their whole army is defeated: deliberations in extremities of this nature are fatal; nevertheless an enemy will sometimes make use of appearances to alarm the besiegers, and to induce them to quit their posts, in order to obtain thereby an opportunity of throwing succours into the place; to prevent which, and to be capable of distinguishing reality from pretence upon every such occasion, is the peculiar characteristick of an able General.

The most prudent method for the besiegers, is to assemble a sufficient number of troops to oppose the enemy, and to leave the remainder in the lines, in readiness to attack every thing that may attempt to make its entrance into the place: but then they are not to stand motionless with arms across, as if they were petrified or enchanted, and to suffer the enemy to pass a river, with his flanks exposed to them, unmolested; for when such favourable opportunities offer, they have only to take their choice, which of the two flanks to attack, after which there is all the appearance of their meeting with little or no resistance.

Marshal *Villars* had been ruined at the battle of *Denin*, if Prince *Eugene* had attacked him, when he passed the *Sheld* in his presence, with his flanks exposed to him: the Prince could never imagine the Marshal would make any attempt so full of danger, immediately before his face, and that was the circumstance which deceived him: the Marshal had covered his march with great skill and address, which the Prince surveyed for a considerable space, with all his troops under arms, without being able to discover his real design; at which time, if he had advanced, the whole French army must have been destroyed, because its flank was then exposed, and a great part of it moreover had already passed the river. At eleven o'clock the Prince said, "I think we might as well go
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“ to dinner ! ” and ordered the troops to refresh ; but he had scarcely sat down to table, when Lord *Albemarle* sent him intelligence, that the head of the French army appeared on the other side of the river, and was actually preparing to make an attack : if he had marched immediately upon the receipt of this information, there still remained sufficient time to have cut off at least a third part of the French army ; nevertheless he only gave orders to a few brigades upon his right, to march to the intrenchments of *Denin*, which were four leagues off ; and then went with all speed to reconnoitre in person, not being even yet able to persuade himself, that the French could possibly have passed the river : at length he discovered his error, and saw them forming their disposition for the attack, when he immediately gave up his retrenchment for lost ; and after having examined them for a moment with no small mortification, he gave orders for the cavalry, that was in that post, to retreat.

The effects produced by this affair are hardly to be conceived ; it made the difference of above a hundred battalions to the two armies ; for the Prince became thereby obliged to throw troops into all the adjacent places : and the Marshal, perceiving the allies were no longer in a capacity to carry on a siege, after they had lost all their magazines, drew above fifty battalions out of the neighbouring garrisons, which strengthened his army to such a degree, that the Prince, not daring to keep the field any longer, was forced to deposit all his artillery in *Quesnoy*, in which place it was afterwards taken.

When towns are situated at the junction of rivers, it is always practicable for an army, that comes to the relief of the besieged, to destroy the bridges of communication belonging to the besiegers ; by which means, their troops being divided, one may be able to defeat them in separate bodies ; and consequently to oblige them to raise the siege : the former are not afraid of attacking the line of countervallation, because they know the latter will be deterred from abandoning their posts to oppose them, both
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on account of the superiority of numbers against them, and the extent of the ground to be maintained, which must continue to increase upon them, in proportion as they move further from their works: they moreover naturally become discouraged by this necessity of remaining behind their intrenchments, while the enemy on the contrary, having little or nothing to fear, is thereby imboldened; a circumstance which amounts to more than half the victory in an engagement.

With regard to the passage of rivers by open force, I look upon it as a thing hardly possible to prevent, especially when sustained by a large fire of artillery, to gain time for the van to intrench itself, and to throw up a work to cover the bridge. There is nothing effectual to be done in the day; nevertheless, during the night this work may be attacked with great advantage; and if it happens that the enemy has begun his passage at that time, he must be thrown into a general confusion, attended with the certain loss of those who may have already passed: but an attack of this kind must be made with a large force; and if the opportunity of the night is suffered to pass unimproved, his whole army will have got over before morning, after which it is no longer practicable to make any attempt upon him, without drawing on a general engagement, which situation and circumstance renders sometimes very imprudent to hazard.

In short, there are a great many established rules for the passage of rivers, which people put in practice with more or less success upon every occasion, according to the different degrees of their abilities.

The affair of *Denin* puts me in mind of an accident, which it is not unseasonable *en passant* to give an account of.—The French cavalry being dismounted after the action was over, the Marshal, who was always in high spirits, says to the soldiers of a regiment upon his right, as he was passing along the line, *Well, my lads, we have beat 'em!* upon which some begun to cry out, *Long live the King!* others to throw their hats into

into the air, and to fire their pieces : the cavalry joining in the acclamation, alarmed the horses to such a degree, that they broke loose from the men, and galloped quite away, insomuch that if there had been four men in the front of them, they might very easily have led them all off to the enemy ; it moreover occasioned some considerable damage, as well as disorder, great numbers of the men being wounded, and a quantity of arms lost. — I was unwilling to omit here the relation of this circumstance, for the sake of introducing a description of the method of decoying horses, as there are but few partisans, who are acquainted with it.

The decoy is a very diverting stratagem to carry off the enemy's horses in a foraging party, or from the pasture ; to execute which, you must be disguised, and so mix on horseback in the pasture, or amongst the foragers on that side, on which you propose to fly : you must then begin, by firing a few shots, which are to be answered by such of your party, as are appointed to drive up the rear, and are posted at the opposite extremity of the pasture, or foraging ground ; after which they are to gallop from their different stations towards the side fixed for the flight, shouting and firing all the way : the horses being thus alarmed, and provoked by the example of others, will break loose from the pickets, throw down their riders, and the trusses, and, setting up a gallop, will naturally direct their course to the same side ; insomuch that if the number of them was ever so great, you might lead them in that manner for several leagues together : when you have got into some road bordered by a hedge, or ditch, you must stop as gently as possible, and without making any noise, where the horses will suffer themselves to be taken without opposition. — Such an artifice practised upon an enemy, must distress him not a little, and is what I once saw put in execution myself ; but as all the good customs have been exploded, this appears to be forgotten with the rest.

C H A P. VI.

Of Situations proper for the Encampment of Armies, and for Engagements.

IT is the part of an able General to derive advantages from every different situation which nature presents to him ; from plains, mountains, hollow ways, ponds, rivers, woods, and an infinite number of other particulars, all which are capable of rendering great services, when they are converted to proper purposes : but although they make so material an alteration, both in situation and circumstance, wherever they happen to be, yet as such advantages are frequently overlooked, till the opportunity of profiting by them is lost, it may not be unseasonable to enter into some detail upon the subject.

Let us then in the first place, suppose a piece of ground divided by a rivulet, and a chain of * ponds as represented in plates 27, and 28.—— A A represents the army marching up to attack B B, whose infantry is at first drawn up in one line to cover the ponds ; but as soon as the enemy arrives within reach, my infantry in the front of these ponds marches back by the intervals or banks between them, to form a second line ; and my cavalry is at the same time advanced upon the right, to keep in awe the enemy's left wing ; which movement alone is sufficient to disconcert him : if he attempts to attack this cavalry, it is to repass the intervals between the ponds, which are guarded by bodies of infantry, that are posted immediately behind them. This manœuvre will have so long engaged the enemy's attention upon his left, that he will not have sufficient time to

* It is always an easy matter to make ponds in a situation where there is a rivulet, by stopping its course at certain distances with banks, and, as one pond fills, directing its overflowings into another.

change his disposition, or to reinforce his right; because the moment my cavalry is arrived upon my right, I attack all that part of the enemy's line, that lies between me and the rivulet, which very probably I shall throw into confusion: his right wing being thus defeated, the rest of his army will be assaulted in front and rear by my two wings of cavalry, and in flank by all my infantry: if he inclines in the least to the right, in order to present a front to my infantry, he will thereby expose his left flank to the troops which I have posted upon my right, and upon the intervals between the ponds; under these circumstances therefore it will be impossible for him to make any movement, without being thrown into confusion.

According to this disposition, I suppose the enemy's army to consist of double the strength of mine; and although it may be imagined, that the cavalry upon my right is in danger of being cut to pieces, yet the more the attention of the enemy is taken up with an object in his front, the more he will be entangled in the snare that is laid before him; for I shall thereby be furnished with a better opportunity of falling upon his rear; after which my cavalry must be more than commonly unfortunate, if it be not able to make good its retreat by the intervals between the ponds, where the enemy will certainly not dare to pursue it.

Plate 29 represents the two armies in another situation, where A A is to attack B B: C C C are three strong redouts thrown up at the distance of three hundred paces in the front of B B, furnished each with two battalions, and every thing else that may be necessary for their defence: D, is some detached cavalry: E E, are two flanking batteries: F F, two battalions posted in two redouts to cover the batteries.—I suppose the enemy's army A A to be twice as powerful in numbers as B B, nevertheless, in what manner is he to attack me in this disposition? It is impossible for him to march up in line of battle, without being broken and disordered, till he has first rendered himself master of my redouts, in attempting to do which, he will be exposed

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to a severe flanking fire from my two battalions; and to pass the redouts, and leave them in his rear, will be impracticable: if then he resolves to attack them by detachments, I shall in like manner make others to maintain them, in which I must have considerably the advantage, on account of the damage that he will unavoidably sustain from my cannon; if he advances with his whole army against them, I give the signal for my cavalry, which is concealed behind the wood, to move up at full speed, and fall upon his rear; at which time I also march up, and charge him in front: being therefore at once, embarrassed by the redouts, thrown into some disorder, and attacked in rear, there is all the appearance of my obtaining an easy victory.

This is an excellent disposition, where you can be certain that the enemy is either inclined, or obliged to attack you; for one cannot possibly be too careful in avoiding every step, that may correspond with any hopes, or expectations of his; this is a maxim in war, never to be departed from, but in extraordinary cases, where no fixed rules can be given: a good opportunity for engaging, should never be neglected, merely because the situation may happen not to be strictly agreeable to your fancy, for you must form your disposition according as you find it, and decline the attack altogether, unless you can make it with advantage; by which I mean, unless your flanks are well covered; unless you can engage a small part of his army, with a large part of your's; can amuse, or keep a check upon him, by the means of any small river, marsh, or other obstacle that may lie between you; supported by circumstances of which nature, you can attack him with confidence, although considerably inferior in numbers, because you will risk nothing, and may obtain a great deal.

Suppose, for instance, his army B B, to be divided by a river in the manner represented in plate 30, and that I am to attack him with A A, in that situation; I shall therefore make the following disposition for it: with my right wing I shall keep in awe his left; and with my left try all efforts to defeat his right; according to appearances I shall be able to pierce him in
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the part marked C, upon the bank of the river, for it is but reasonable to suppose, that the strong must overpower the weak; in consequence of which advantage, as the communication between the two divisions of his army will be thereby cut off, and the left, in which his principal strength consisted, be no longer able to sustain the right, he must be rendered incapable of maintaining his ground; and finding himself exposed both in front and flank, will undoubtedly retire.—Let us proceed to another example.

A *, is the enemy's army which I am to attack with B: the rivulet between us is supposed to be every where fordable; and the encampment of A, to be made upon its banks, as is usually the custom in such situations, as well on account of the protection which it naturally affords, as for the convenience of the water: the enemy being in this disposition, I arrive towards the evening, and encamp with B on the opposite side: as he will not be inclined to trust to the uncertain event of an immediate engagement, he will undoubtedly therefore not pass the rivulet, or quit the advantage of his post, to attack me in the night-time; on the other hand, I rather imagine that he will be altogether taken up in providing for the defence of it: on my side, I shall only leave one weak line opposite to him, and marching all night with the remainder, gain the position C: I have nothing to fear from the enemy, in making this movement, for he will certainly not venture to pass the rivulet, or to leave his post unguarded, on bare surmise or conjecture only: the day arriving, he discovers me upon his left flank, as well as in front, after which it will be impossible for him to make any disposition, or to form any order of battle, without being thrown into confusion; for I shall fall upon him before he can have had sufficient time to finish it: but his attention will principally be taken up, in sustaining his post upon the rivulet, which I shall attack at the same time, with the troops that were left on the opposite side for that purpose:

* See plate 31.

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he will detach some brigades to oppose me upon the left, which arriving *en detail*, and having to engage with a large body, drawn up in good order, will easily be repulsed ; infomuch that he will be in a manner totally defeated, before he can be even able to persuade himself, that the real attack was made on this side ; and after having thus at length discovered his mistake, he will cease to be in any kind of capacity to remedy it.

Plate 32 represents another situation, in which the enemy's army A A A, is supposed to be formed in separate bodies, and extended to a considerable distance all along a large river, in order to cover a province, as is frequently the case : A A A is therefore to defend the river, and B B B is the offensive army, endeavouring to pass it ; and extended in like manner upon the opposite borders. These large rivers have generally plains on both sides, bounded by mountains, out of which issue small ones, or rivulets, that are sometimes of a considerable size, and that discharge themselves into the greater : by the means therefore of such a rivulet, one must endeavour to build a bridge, unknown to the enemy, for in this lies the great difficulty of passing all rivers : after having then prepared your bridge all along the rivulet, you are to throw it over that part of the river marked C, where you are to force your passage ; in which, I take it for granted, you will be able to succeed, especially if you make at the same time two false attacks at the places marked D and E : the enemy will not dare to vacate any of his posts, neither will the General Officers situated in different quarters execute any orders they may receive to that effect ; for as, at this time, they will be engaged themselves, and as each will suppose his to be the real attack, they will from thence be induced, not unreasonably, to suppose, that their commander in chief had not been informed of it : during all this time the grand effort is making at the center between the rivulet and the mountain marked F : the first step to be taken after the passage, is to possess yourself of the eminencies ; by which means you divide the enemy, and having cut off his communications, he can hardly hope

hope to time his arrival afterwards so well, as to be able to attack you on both sides at once; and although he even does, he will nevertheless be easily demolished: the circumstance of your being possessed of these advantages, without having suffered any loss in the obtaining of them, will add to his confusion; for notwithstanding your passage should be disputed, yet the opposition you meet with, can never be considerable enough to permit it; especially when you have used proper precautions, and made your disposition with judgment: after you have once taken post, and erected your bridge, for which four hours is a sufficient space of time, and as much more that will be required for the passage of thirty thousand men, you may allow the enemy twenty-four hours to penetrate into your real design, and twenty-four more to assemble either half of his army, at the place in which he has attacked you; but even this will be rendered impracticable, because I suppose you to be effectually covered after you have passed, by the rivulet on one side, and by the mountain on the other.

All the large rivers that I have seen, produce a great variety of situations, where passages of this kind may be executed; and smaller ones afford likewise the same; but they are seldom quite so commodious, because the plains and mountains which surround them are usually not so advantageous, nor the rivulets so considerable.—In short, by discernment one may reap advantages from a thousand different sorts of situations, and a commander void of that, cannot possibly be expected to do any great things, even with the most numerous armies.

I am unwilling to finish this chapter, without making some observations upon the battle of *Malplaquet*. If, instead of posting the French troops in bad intrenchments, the three woods over against the hollow ground had been only cut down, and three or four redouts thrown up in it, supported by a few bridges, I am of opinion that things would have taken a different turn: for had the allies attacked them, they must have lost an infinite number of men, without ever being able to carry them. It is the property of
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the French nation to attack ; but when a General is unwilling to depend altogether upon the exact discipline of troops. and upon that great order, which, according to the present system, is always necessary to be observed in actions, he ought, by throwing up redouts, to introduce the method of engaging *en detail*, and of attacking by brigades ; in which he might certainly succeed very well. The first shock of the French is scarcely to be resisted, nevertheless it is the part of a General, to be able by the prudence of his disposition to renew it ; and no means can facilitate this so much, as redouts ; for you can always send fresh troops to sustain them, and to oppose the enemy : nothing can possibly create such distraction, or tend to dispirit him to so great a degree, because he will be afraid at every attack of being exposed in flank : while on the other hand, your own troops become thereby encouraged ; for they are conscious that their retreat is secure, and that the enemy will not dare to pursue them beyond the redouts : It is upon such an occasion, that you might be able to reap the greatest advantages from their vigour and impetuosity ; but to post them behind intrenchments, is a manner to occasion their defeat ; or at least to deprive them of the means by which they might have conquered.—That would have been the event of the day at *Malplaquet*, if Marshal *Villars* had taken the greatest part of his army, and attacked the one half of that of the allies, which had been so imprudent, as to form a disposition in which it was totally separated from the other by a wood, without having any communication at the same time made between them ? the flanks and rear moreover of the French army would have been under cover, as may be seen in the situation of it, represented in plate 34.

There is more address required in making bad dispositions, than may at first be imagined, provided they be such as are intentional, and so formed as to admit of being instantaneously converted into good ones : nothing can confound an enemy more, who has perhaps been anticipating a victory, than a stratagem of this kind ; for he perceives your weakness, and draws up his army in the order in which he expects to benefit
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the most from it ; but the attack is no sooner begun, than he discovers the imposition: I must repeat it therefore, that nothing can possibly disconcert an enemy so much, or plunge him into errors so dangerous ; for if he does not change his disposition, he must infallibly be defeated ; and the alternative, in the presence of his adversary, will be attended with the same fatal consequences.

If the Marshal had abandoned his intrenchment at the approach of the allies, and made his disposition in the manner represented in plate 35, it appears to me, that he would have succeeded much better.

CHAPTER VII.

Of Lines and Retrenchments.

THESE are works to which I am altogether averse, from a persuasion that the only good lines, are those which nature has made ; and that the best retrenchments are, in other words, the best dispositions, and the best disciplined troops.

I scarcely remember a single instance of lines or retrenchments having been assaulted, and not carried. If you are inferior to the enemy in numbers, you will not be able to defend them, when they are attacked with all his forces, in two or three different places at once: the same will be the consequence, if you are upon an equality with him: and with a superiority you have no occasion for them: what sufficient reason can you therefore assign for bestowing so much labour in the construction of works, which appear to answer your purpose so little?

The persuasion of the enemy, that you will never dare to leave them, renders him bold: he trifles with you even before your face, and hazards
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several movements, which he would be afraid to make, if you was in any other situation : and this courage is equally diffused amongst both officers and soldiers, because a man always dreads danger itself, less than he does the consequences of it ; which is an argument that I could support by a number of examples.

Suppose a retrenchment to be attacked by a column, the head of which is arrived upon the brink of the ditch ; if at that time only a handful of men should make their appearance at the distance of a hundred paces without the retrenchment, nothing is more certain, than that the front of this column would instantly halt ; or, at least, would not be followed by the rear : the reason for which can be deduced from no other source than the human heart.—If only ten men get footing upon a retrenchment, whole battalions that have been posted behind for its defence, will abandon it ; they no sooner see a troop of horse enter within half a league off them, than they give themselves totally up to flight.

As often therefore as one is obliged to defend retrenchments, one must take particular care to post all the troops behind the parapet, because if once the enemy sets foot upon that, the defendants will no longer think of any thing but their own security ; which proceeds from that consternation, which is the unavoidable effect of sudden and unexpected events : this is a general rule in war, and is what determines the fate of the day in all actions : it is the irresistible impulse of the human heart, which, on account of its consequences, was the principal motive that induced me to attempt this work ; as I am apt to imagine it would never have occurred to any other person to ascribe the greatest part of the bad success of armies to this cause, although the true one.

If then you station your troops behind the parapet, their only hopes and expectations are to prevent the enemy by their fire from passing the ditch, and forcing it ; which if he is once able to accomplish, they instantly give them-

themselves up for lost, and in consequence take to flight. Instead of this method it will be much more prudent to post a single rank there, armed with pikes, whose business will be to push the assailants back therewith, as fast as they attempt to mount; this your men will certainly execute, because it is what they expect and are prepared for: if moreover you post bodies of infantry at the distance of thirty paces in the front of the retrenchment, they will not be confounded at the approach of the enemy, from a consciousness of their being stationed there for no other purpose than to oppose him, which, for that reason, they will do with proper vigour and resolution; while, on the contrary, had they been all posted behind it, they would have fled at his appearance. Thus we see upon what nice distinctions every thing in war depends, and how irresistibly weak mortals are governed by mere, momentary caprice and opinion.

To this I might add the absurdity of our manner of drawing up the troops for the defence of retrenchments: we post our battalions four deep behind the parapet, in which order the front-rank only is able to do execution, because it fires off the banquet; and although the others may be advanced after the front has fired, yet their shots are only thrown away, because the men are crowded together, and don't take aim at any certain object: they must necessarily also be involved in great confusion, from which the enemy cannot fail to reap advantage, when he arrives upon the parapet, which they are moreover totally incapable of preventing, for want of being properly prepared with fixed bayonets, or pikes: they make a continual bustle in your battalions, or rather, it is your battalions themselves, which form a busy and confused crowd, like a swarm of ants, that have been disturbed in their nest: every man's attention is taken up with his firing only, and the moment the enemy sets foot upon the parapet, they abandon the defence of it.

If I had a * retrenchment to maintain, I should make use of a different disposition for that purpose, of which the following is a description.

* See plate 36.

I should post my centuries all along the parapet in two ranks; the first armed with fuses upon the banquet, and the second with pikes at the foot of it, together with the officers and non-commissioned officers: the light-armed troops I should also post upon the banquet, by the addition of which to the front-rank, it would consist of about a hundred men per century, and the rear-rank of about fifty, exclusive of the officers. As I erect my parapet six feet high, the assailants, who would otherwise take post upon the berm in order to fire over it, will be deprived of their usual resource, and find themselves obliged to mount it; in attempting which they must be pushed back, and destroyed by the pikes of my rear-rank. The officers and non-commissioned officers are to be posted one to every five men, and must be attentive to their behaviour, encouraging them at the same time, and taking care that they make a proper use of their weapons. It is moreover in a particular manner necessary to persuade them, that they are by no means to depend upon the effect of their small arms, or to imagine their firing only will be sufficient to repel the enemy; but that the top of the parapet is the place where they will be required to exert themselves: these precautions will prevent their being surprised or terrified to see him enter the ditch; for as it cannot be doubted, but that he will take a firm resolution to stand their fire, which it is as certain that he will be able to go through, one ought therefore to expect, and be prepared for the consequence. If he endeavours to take post upon the berm of the retrenchment in order to dislodge me from the banquet, which is frequently the case, I shall be able to reach him with my pikes, and to push him back, man by man, as fast as he approaches: but if at length, notwithstanding all opposition, he forces the retrenchment, and attempts to form, I shall charge him *en detail* by centuries; and as my troops have been properly prepared for all extremities, they will, for that reason, be subject to no surprise, and will make their assault with vigour.

This is all that can be said concerning the defence of retrenchments: but one must have different reserves in readiness to reinforce occasionally those

those posts, against which the enemy's principal strength appears to be directed; a circumstance not always easy to accomplish, because it is what a skilful adversary will prevent your being able to discover: they must therefore be stationed as much at hand, and as advantageously, as possible, which is to be determined by the nature of the situation, as well without, as within the retrenchment. You need be under no apprehensions of being attacked in places where the ground is level to any considerable distance, for in such it will be difficult for the enemy to disguise his real purpose; but whenever there happens to be any eminence, hollow, or other piece of ground to cover his approach; there you may expect him to make all his efforts, because he will thereby hope to conceal his disposition and numbers.

If you can contrive some passages in your retrenchments, for a party, or two, to fall out of, just as the head of the enemy's columns arrives upon the brink of the ditch, they will certainly make them halt the same instant; even although they have forced the retrenchment, and that some part of them have already entered; for, as they are unprepared for any such incident, they will be alarmed for their flanks and rear, and in all probability take to flight.

Amongst a thousand examples that might be produced, to authorise my ideas upon this head, I shall make choice of the two following.

Cæsar being desirous to relieve *Amiens* when it was besieged by the Gauls, arrived with his army, which consisted of no more than seven thousand men, upon the borders of a rivulet, where, immediately after, he threw up a retrenchment with so much precipitation, that the Barbarians, imagining he was afraid of them, attacked it, although in reality he had no manner of intention to defend it; for, on the contrary, while they were employed in filling up the ditch, and rendering themselves masters of the parapet, he sallied out with his cohorts, and thereby threw them

them into so great a consternation, that they all turned their backs, and fled, without so much as a single person's making the least attempt to defend himself.

Alesia being besieged by the Romans, the Gauls, who were infinitely superior in numbers, marched to attack them in their lines: Cæsar, instead of defending them, gave orders to his troops, to make a sally, and to fall upon the enemy on one side, while he attacked them on the other; in which he succeeded so remarkably well, that the Gauls were routed with a considerable loss, exclusive of above twenty thousand men, that were taken prisoners, together with their General.

If one does but consider the * method in which I form my troops, one must readily allow that they will be capable of moving with much more facility than our battalions in their present extensive order; for supposing several of them to be drawn up four deep, one behind another, what service can they render in that disposition? They are unwieldy, every trifle serves to embarrass them, the ground, their doubling, or any other such circumstance; and if the first is repulsed, it falls in disorder upon the second. Nevertheless, suppose the second is not thereby disordered, yet it will require a long space of time before it can possibly be able to charge, because the first, which is broken, must be allowed to move clear of its front; and unless the enemy is so complaisant as to wait with his arms across during all this time, he will certainly drive that battalion upon the second, and the second upon the third; for after having repulsed the first, he has nothing to do, but to advance briskly forward, and if there were thirty, one in the rear of another, he will throw them all into confusion.—Yet this is what is called, attacking in column by battalions.

My disposition is of a very different kind; for although the first battalion should be driven back, that which follows it, will notwithstanding

• See plate 37 and 38.

be able to charge in the same instant, moving up in quick succession, and renewing the attack with fresh vigour: I am moreover formed eight deep; have no sort of embarrassment to apprehend; my march is rapid, and yet free from all manner of disorder; my charge is violent; and I shall always outflank the enemy, although equal in numbers. Nothing certainly can be more wretched and absurd than the order of battle, which is at present in general use; and I am at a loss to know, why the principal officers can suffer it so long to prevail, and have not yet attempted to make some alteration in it.—Mine is far from being new, for it is that of the Romans; that, with which they conquered the universe. The Greeks had great knowledge in the art of war, and were very well disciplined; yet their large phalanx was never able to contend with the small bodies of the Romans disposed in this order; in which opinion I am supported by *Polybius* *, who concurs with me in giving them the preference. What then can be expected from our battalions, when opposed against them, which have neither strength, nor principle, to vindicate their disposition? Let the centuries be posted in what situation you please; in a plain, or in rough ground; make them sally out of a narrow pass, or any other place, and you will see with what surprising celerity they will form: order them to run at full speed, in order to take possession of a defile, hedge, or eminence, and the instant in which the standards arrive, they will be drawn up, and dressed: this is what is absolutely impracticable with our long Battalions, for to march them with any regularity, and to form them in their natural disposition, will require a great deal of time, and likewise a piece of ground made on purpose; which are things so incompatible with the service, that it is impossible to see them put in execution without the utmost disgust and impatience.

* At the time when I finished this work, I had not read *Polybius* throughout; but having in a late perusal of him, met with the following comparative account of the two nations concerning the subject in question, I was glad to give it a place here; esteeming myself happy to have thought like Him, who was cotemporary with *Scipio*, *Annibal*, and *Philip*; and who, during the course of the several wars carried on by these celebrated Captains, served in different armies, and was invested with great commands: so illustrious an author cannot fail of justifying my ideas.

“ I promised, in my sixth book, to seize the first opportunity that offered to make a comparison between the arms of the Macedonians and Romans, as also between their different orders of battle ; and at the same time to particularize in what the advantage, or disadvantage of the one, in respect of the other, consisted. As it is but proper that I should keep my word, I shall therefore lay hold of this occasion, which the action *, that I have been just relating, affords me for that purpose.

“ Formerly the Macedonian disposition surpassed that of the Asiatics and Greeks : a circumstance rendered incontestable by the victories which it obtained over them ; neither was its deficiency the occasion of its yielding even to that of the Romans in Africa and Europe. But as their orders of battle are now frequently opposed one against another, it will not be amiss to trace the particulars of their difference, and thereby ascertain the reason why the preference is due to the Romans. After having by this method made ourselves thoroughly masters of the subject, we shall probably no longer ascribe the success of events to fortune, and blindly applaud conquerors, without being acquainted with the cause of their victories, as ignorant persons are apt to do ; but at length accustom ourselves both to approve and to condemn from principle and reason.

“ I imagine it will be unnecessary to observe, that one must not, from the engagements which *Hannibal* had with the Romans, and the victories he obtained over them, come to any decision concerning their different methods of fighting ; because he was not indebted for his conquests, either to his superior manner of arming his troops, or of drawing them up ; but to his skill and dexterity : this is what we have clearly demonstrated in the course of our relation of his battles ; and such as require any further conviction, let them cast their eyes upon

* If the reader has any inclination to see *Polybius's* account of this action, which was between *Philip* and *Flaminius*, he will find it in the third Chapter of his 17th Book.

“ the event of the war. As soon as the Romans got a General of equal
“ abilities at their head, they became victorious: but I might appeal to
“ the example of even Hannibal himself, who, immediately after his first
“ battle, abandoned the Carthaginian armour, to adopt that of the Ro-
“ mans, which moreover he never afterwards laid aside. Pyrrhus even
“ went further; for he not only took their arms, but likewise employed
“ their very troops in Italy: in his engagements with the Romans, he drew
“ up alternately one of their companies, and one cohort in the form of the
“ phalanx: yet this manner of incorporating them, availed nothing; for
“ the advantages which he at any time gained, were always extremely du-
“ bious and uncertain.

“ This introduction to the subject was necessary, in order to prepossess
“ and prepare the minds of my readers for the perusal of the sequel. I
“ now therefore proceed to my comparison of the two distinct orders of
“ battle.

“ It is an invariable truth, and what may be justified by a thousand in-
“ stances, that so long as the phalanx can maintain itself in its natural or-
“ der, nothing can possibly resist it in front, or support the violence of its
“ shock. Every soldier under arms is allowed the space of three feet. The
“ pike was originally twenty-four feet in length, but has since been made
“ three feet shorter, in order to render it more convenient; after which di-
“ minution of it, there remains from the part which the soldier holds in
“ his left hand, to the butt-end in his right, six feet, which serves like-
“ wise by way of a counterpoise to the other end; and consequently, when
“ he pushes it with both hands against the enemy, it extends fifteen feet be-
“ fore him: when the phalanx therefore is properly formed, and its ranks
“ and files are at charging order, the pikes of the fifth rank pass the first,
“ three feet; those of the fourth, six feet; those of the third, nine feet;
“ those of the second, twelve feet; and those in the front are advanced
“ fifteen feet. As the phalanx is drawn up sixteen deep, one may readily

U

“ imagine,

“ imagine, what must be the shock of such an immense body : the soldiers
“ indeed in all ranks after the fifth, cannot fight against the enemy, nor
“ reach Him with their pikes ; yet by keeping them advanced, and sloping
“ over the heads of the ranks in their front, they break the force of the
“ missile weapons that are discharged against them ; they are also of
“ great service, when they march up to the attack, in supporting and pushing
“ forwards their leaders, by doing which they at the same time deprive
“ them of all possibility of flying.

“ Having thus taken a view of the entire body, as well as the different
“ parts of the Phalanx, let us now examine the property of the armour,
“ and order of battle of the Romans, that we may from thence
“ be able to make the comparison which we have promised.

“ A Roman soldier only occupies three feet of ground ; but as in covering
“ himself with his buckler, and using his sword, he must of necessity
“ make some movement ; an interval therefore of at least three feet
“ must be allowed between the ranks and files, in order to render him
“ capable of performing all his motions with proper ease and convenience.
“ In action therefore every Roman soldier has two men, and ten pikes
“ to force ; which, when they come to close quarters, is more than he is
“ able to do, either by destroying, or breaking them ; neither can the
“ ranks which follow him, be of any assistance in that respect ; the violence
“ of their charge will be equally insufficient, and his sword will be
“ rendered useless.

“ From hence it appears how much reason there is to say, that the
“ phalanx is invincible in front, so long as it preserves its natural order,
“ and that no other disposition is able to resist it. From whence then,
“ it may be said, comes it to pass, that the Romans conquered it ? Because
“ in war, the time and place of engagement make an infinite difference
“ in circumstances ; and the construction of the phalanx is such,
“ as

“ as renders it incapable of acting with all its force but at a certain season,
“ and in a certain method. If an enemy is reduced to the necessity of en-
“ gaging it at a time, or in a situation favourable for it, there is the greatest
“ probability, as I have already observed, of its gaining the victory: but
“ if one can deprive it of both these advantages, which is far from being a
“ matter of any difficulty, it will then be no longer so formidable. That
“ to form only a part of the phalanx, will require a situation open, level,
“ free from ditches, bogs, hollows, eminencies, and rivers, is a circum-
“ stance universally acknowledged; and yet it is extremely difficult, if not
“ impossible, to find a piece of ground of but twenty furlongs, or a little
“ more, that is void of all these obstacles. What use can be made of the
“ phalanx, if the enemy, instead of marching up to it in its chosen situa-
“ tion, disperses himself throughout the country, plunders the towns, and
“ lays waste the territories of its allies? This large body remaining inactive,
“ rather than quit the post that is adapted to it, will not only be thereby in-
“ capable of assisting its friends, but even of supporting itself; for the enemy
“ being master of the country, and meeting with no sort of opposition, will
“ carry off all its convoys: and if it relinquishes its post, in order to put a
“ stop to these inconveniencies, or to execute any enterprise, it thereby
“ loses its power, and exposes itself to the derision of its adversary. But
“ even suppose the enemy marches to attack it upon its own ground, if
“ he does not present his whole army to it at once; or if, the moment
“ in which the action should begin, he suddenly avoids it by retreat-
“ ing, what then becomes of its mighty power?

“ It is an easy thing to form a judgment concerning it, by the man-
“ œvre which is at present in use amongst the Romans; for I advance
“ nothing upon mere argument, but refer to absolute facts for my autho-
“ rity, and such moreover as are yet recent.——The Romans do not
“ employ all their troops, to make a front equal to that of the phalanx,
“ but always post one part of them in reserve, and oppose the enemy with
“ the other: whether therefore the phalanx disorders their front-line, or is

“ broken itself, they have still a regular body in readiness for action:
“ whereas the phalanx, if the event be such as to oblige it either to pursue,
“ or to fly, it loses equally all its force: for in both cases it must unavoid-
“ ably make intervals, which the reserve will take advantage of, and charge
“ it both in flank and rear.—In general then, as it is easy to avoid the
“ time, and all such other circumstances, as give the advantage to the pha-
“ lanx; which, on the other hand, it is impossible for the phalanx to re-
“ turn, it may be readily conceived how much it is inferior to the disposi-
“ tion of the Romans.

“ We might add likewise the inconvenience of the phalanx in the case
“ of marching through all sorts of grounds; in encamping, in taking pos-
“ session of advantageous posts, in besieging, in being besieged, and in sur-
“ prising an enemy upon his march; for all these accidents frequently oc-
“ cur in war, and although a victory does not always depend upon them,
“ yet they generally contribute largely towards it: nevertheless it is ex-
“ tremely difficult to employ the phalanx upon any of these occasions, be-
“ cause it cannot engage in such situations, either by cohorts, or man to
“ man: whereas the Roman order, even in rencounters of this nature, is
“ subject to no sort of embarrassment; every place, every time, is conve-
“ nient; the enemy can never surprise it from any quarter; the Roman
“ foldier is always prepared for action, whether it be with the army entire,
“ or with a part of it; whether by companies, or man to man. Is it then
“ any longer surprising, that the Romans, with an order of battle, all the
“ parts of which were capable of acting with so much facility, succeeded,
“ in general, better in their enterprises, than those who opposed them with
“ any other?—Upon the whole, I thought it incumbent upon me to
“ discuss this matter at large, because most of the Greeks look upon it as a
“ kind of prodigy, that the Macedonians have been defeated; and because
“ there are others again, who are still at a loss to know the reason why
“ the Roman order of battle is superior to the Phalanx.”

C H A P T E R VIII.

Of the Attack of Retrenchments.

WHEN you are to attack a retrenchment, it is always proper to extend your line as far as possible, in order to keep the enemy every where in awe, and thereby to prevent his drawing troops from any post, to reinforce that which you have an intention to attack, even after you have put it in execution. To effect this, all your centuries, which are to deceive the enemy by their appearance only, are to be drawn up four deep, and to march in a line: the rest of your manœuvre, and your preparations for a real assault, are to be conducted in the rear of them; which is what I call, masking the attack. This part of the military art depends upon the imagination; a General in this situation, may have recourse to all sorts of stratagems, because the certainty of his not being attacked in it, leaves him at full liberty to make what experiments he pleases; every valley, hollow way, hedge, and a thousand other things may be converted to some advantage, and rendered instrumental to his success.

In charging by centuries, you need be under no apprehensions of confusion; every centurion will be jealous for the honour of his standard, and amongst the number, it is impossible there can be wanting some, who will be even glad of an opportunity to risk their lives for the sake of signalizing themselves; because the particular behaviour of every century becomes conspicuous by the distinction of its standard.

In approaching the retrenchment, you must advance the light-armed troops, to draw away the enemy's fire, taking care to support them with others.

others. After the firing is begun, the centuries are to march up, and charge; if the first are repulsed they must be succeeded by others before they have had time to fly, till at length, by force and numbers seasonably applied, you have overcome all obstacles. Your centuries that are drawn up four deep are likewise to arrive at the same time, provided you have forced the retrenchment in several places at once; after which the enemy's battalions perceiving your line advancing upon them, and finding themselves exposed both in front and rear, will abandon their posts. You have then nothing to do, but to take possession of the parapet, and after that, to form your troops in proper order, during which time the enemy, instead of making any further opposition, will be retreating from you; because he imagines he has done all that he could.

But there is another method of attacking retrenchments*, altogether different from this which I have just been describing, and to the full as good; provided you are perfectly well acquainted with the ground, and that it is such as will admit of its being put in practice. When there is any hollow way, or bottom near the retrenchment, capable of holding troops under cover, you are to convey, without the enemy's knowledge, and during your march, a proper number into it; after which, you must advance in several columns with large intervals between them, to attack a part of the retrenchment at some distance from it; for these will attract all his attention, and tempt him to draw away his troops from other posts, in order to strengthen his disposition against the columns in this: as soon therefore as they begin the attack, all his forces will unite to oppose them; upon which your troops, that have been concealed, are suddenly to fall out, and to assault the abandoned part of the retrenchment: those who are engaged against the columns, upon seeing this, will be thrown into a consternation, because they are totally unprepared for any such event; and, under the pretence of hastening to the defence of that part of the retrenchment, which is thus unexpectedly attacked, will instantly desert the other, and fly.

* See plate 39.

The defence of retrenchments is attended with a great many difficulties, because it is a manœuvre that intimidates the troops; and although I have given my opinion in regard to what may be useful upon the subject, and have recommended such measures as appear the most promising of success, yet I am far from being an advocate for these works, and am rather disposed to exert my influence towards having them totally laid aside. My favourite defences are redouts, the superior advantage of which I shall endeavour to demonstrate in the following chapter.

CHAPTER IX.

Of Redouts, and their excellence in orders of battle.

TO justify by facts that high opinion which I entertain of redouts, is a task remaining now to be executed.

The arms of *Charles* the XIIth king of Sweden, were always victorious before the battle of *Pultowa*: the superiority they obtained over those of the Muscovites, is almost incredible: it was no unusual thing for ten or twelve thousand Swedes to force retrenchments defended by fifty, sixty, or even eighty thousand Muscovites, and to cut them to pieces; they never inquired after their numbers, but only after the place where they might be found.

The *Czar Peter*, who was the greatest man of his age, bore the bad success of this war with a patience equal to the dignity of his genius, and still persisted in fighting, on account of exercising his troops, and inuring them to hardships. In the course of his adversities, the king of Sweden laid siege to *Pultowa*; upon which the *Czar* called a council of war, where it was for a long time debated, and various opinions were given, concerning
the

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the step most proper to be taken in this exigency: some were for surrounding the king of Sweden with the Muscovite army, and for throwing up a large retrenchment in order to oblige him to surrender: others were for burning all the country within a hundred leagues in circumference, to reduce him by famine; which opinion was far from being the worst, and was also most conformable to that of the *Czar*; others however objected to it by observing, that it could never be too late to have recourse to such an expedient, but that they ought first to hazard a battle, because the town and its garrison were in danger of being carried by the invincible obstinacy of the king of Sweden, where he would find a large magazine, and a sufficient supply of every thing to enable him to pass the desert with which they proposed to surround him. This being at length the determined opinion of the council, the *Czar* thus addressed himself to them:

“ Since we have come to a resolution to fight the king of Sweden,
“ nothing remains but to agree about the method, and to make choice
“ of that which promises the most success: the Swedes are well exercised, well disciplined, adroit under arms, and impetuous in their charge:
“ our troops are not inferior to them in point of resolution, but they certainly are in many other respects; it therefore becomes necessary to fall
“ upon some scheme that may render this superiority of theirs useless to
“ them: they have frequently forced our retrenchments; and have always defeated us in the open field by dint of art, and by the facility
“ with which they perform their manœuvres: in order then to counterbalance these advantages in the enemy, I propose to draw near to him;
“ to throw up several redouts in the front of our infantry with deep ditches
“ before them; to fraise and palisade them, and to defend them with infantry; and after having erected these works, which will not require
“ above a few hours labour, to wait for the enemy with the rest of our
“ army behind them: he must infallibly be broken in attacking them,
“ must lose great numbers, and will both be weakened, and in great
“ disorder, when he attempts to pass the redouts to charge us; for it is
“ not

“ not to be doubted, but that he will raise the siege to engage us, as soon
“ as he perceives that we are within his reach; we must therefore march
“ in such manner as to arrive before him, towards the close of the day,
“ that he may be thereby induced to defer his attack till the day following,
“ and take the advantage of the night to erect these redouts.”

Thus spoke the sovereign of the Russians, and, all the council approving of the disposition, orders were given for the march, for tools, fascines, chevaux de frize, &c. and towards the evening of the 8th of July, 1709, the *Czar* arrived in the presence of the king of Sweden.

This Prince, although he was wounded at that time, nevertheless informed his General Officers, that he intended to attack the Muscovite army the day following, and accordingly, having made the necessary dispositions, and drawn up his troops, he marched a little before day-break.

The *Czar* had thrown up seven strong redouts in his front, with two battalions posted in every one; behind which was all his infantry, having its flanks covered by his cavalry: in this disposition therefore it was impracticable to attack the Muscovite infantry, without having first carried the redouts, because they could neither be avoided, nor was it possible at the same time, to pass between any two of them, without being destroyed by their fire. The king of Sweden and his Generals remained totally ignorant of this disposition, till the moment in which they saw it: but the machine, as it were, having been once put into motion, it was now impossible to stop it. The Swedish cavalry presently routed that of the Muscovites, and even pursued them too far; but their infantry was stopped by the redouts, which made an obstinate resistance. Every military man knows the difficulty that usually attends the taking of a good redout; that it requires a disposition on purpose; that a great many battalions must be employed, in order to be able to attack it in several places at once; and that after all, their success is extremely uncertain: nevertheless, the Swedes carried three of these, although

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it was with difficulty; but they were repulsed at the others with great slaughter: all their infantry was broken and disordered, while that of the Muscovites, being drawn up in order at the distance of two hundred paces, beheld the scene with great tranquility. The King and the Swedish Generals saw the danger in which they were involved, but the inactivity of the Muscovite infantry gave them some hopes of being able to make their retreat: it was absolutely impossible for them to do it with any regularity, for they were totally in confusion; however as it was the only remaining step, which they had to take, after having withdrawn their troops from the three redouts they had carried, and from the attack of the others, they proceeded to put it in execution: in the mean time the *Czar* called together his General Officers, and asked their advice concerning what was to be done at this conjuncture; upon which Monsieur *Allart*, one of the youngest amongst them, without even allowing time to any of the others to declare their sentiments, thus addressed himself to his Sovereign: "If your Majesty
" does not attack the Swedes this instant, they will be gone, and you will
" lose the opportunity."——This being acceded to, the line advanced in good order through the intervals between the redouts, leaving them guarded to favour their retreat in case of an accident.——The Swedes had but just halted, to form their broken army, and to restore it to some order, when they saw the Muscovites at their heels; nevertheless, confused as they were, they made an effort to return to the charge; but order, which is the soul of battle, being totally wanting, they were dispersed without opposition. The Muscovites, not having been accustomed to conquer, were afraid to pursue them, so the Swedes retreated without molestation to the *Boristhenes*, where they were afterwards taken prisoners.

From hence it appears how practicable it is, by skilful dispositions, to render fortune favourable. If the Muscovites, who were at this time undisciplined, and dispirited likewise by an uninterrupted series of misfortunes, owed the victory to their redouts, what success may not be expected from them under the defence, and direction of a nation experienced in war, and whose

whose property it is to attack? If you act upon the defensive with them, you have notwithstanding as much advantage to the full, as your enemy; by charging him by brigades, advanced in proportion as the redouts are attacked. You can moreover renew the charge as often as you please, and always with fresh troops; which are waiting for your orders with impatience, and will make it with vigour, because they are exposed to publick view, as well as supported; but above all, because they know, their retreat is secure. It is incredible, with what a panick, armies are sometimes seized, so far from being subject to which, you render yourself, if I may be allowed the expression, master of the favourable minute, that is capable of deciding the event of battles; I mean that, in which the enemy is in disorder: what an advantage therefore must it be, to be prepared for such an incident, with a certainty of its coming to pass? — The Muscovites neglected to reap the benefit of all those opportunities, which the excellence of their disposition afforded them; for they calmly suffered three of their redouts to be taken before their face, without attempting to succour them; a circumstance that must have discouraged those who defended them, have intimidated the rest of their troops, and have augmented the audacity of their enemy. One may therefore safely venture to say, that it was the disposition alone which conquered the Swedes in this action, without the Muscovite troops having contributed to the victory.

These redouts are also the more advantageous, in that they require but little time for their construction, and are moreover useful on numberless occasions: a single one is frequently sufficient to stop a whole army in a close, or confined situation; to prevent your being harassed, or insulted on some critical march; to cover one of your wings; to divide a piece of ground; or to occupy a larger quantity, than the number of your troops will otherwise permit; &c.

*A calculation of the time, and the numbers of men required for the construction of a * Redout.*

The Excavation of the ditch being 144 toises, will require ^{men} 288, including the † trimmers.

To get fascines	- - - - -	500.
To get pickets	- - - - -	300.
To get palifades	- - - - -	400.
Total		<u>1488.</u>

Fourteen hundred and eighty-eight will therefore be able to throw up a Redout in the space of five hours.

C H A P. X.

Of Spies and Guides.

ONE cannot be too diligent in the procuring of Spies and Guides. M. de Montecuculli says, that they serve as eyes to the head, and that they are equally as essential, to a commander: which observation of his is certainly very just; money therefore should never be wanting upon a proper occasion; for the acquisition of such as are good, is cheap at any price. They are to be taken out of the country, in which the war is carried on, selecting those only who are active and intelligent, and dispersing them every where; amongst the General Officers of the enemy, amongst

* See plate 40.

† In the construction of the Fort, in a preceding part of this work, the Marshal allows two diggers, to one trimmer; and, according to his own calculation, the 288 men here mentioned, will be necessary, only to dig the ditch of his Redout, within the time limited; this must therefore be a mistake, and there ought to be half as many more, *i. e.* 144, added for trimming, which makes the whole number amount to 1632, instead of 1488.

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his sutlers, and above all, amongst the purveyors of provisions, because their stores, magazines, and other preparations, furnish the best intelligence concerning his real design.

They are not to know one another; and to consist of various ranks or orders; some to associate with the soldiers; others to follow the army, under the disguise of pedlers; but it is necessary that all of them should be admitted to the knowledge of some one belonging to the first order of their fraternity, from whom they may occasionally receive any thing that is to be conveyed to the General, who pays them. This charge must be committed to one, who is both faithful and ingenious; obliging him to render an account of himself every day, and guarding, as much as possible, against his being corrupted.

I shall not dwell any longer upon this subject, which, upon the whole, is a detail that depends upon a great variety of circumstances, from which a General, by his prudence and intrigues, will be able to reap great advantages.

CHAP. XI.

Of Signs.

THERE are particular signs in war, which it is necessary to study, and by which you may form judgments with a kind of certainty. The knowledge you have of the enemy, and of his customs, will contribute a great deal to this; but there are some at the same time, which are common to all nations.

In a siege, for example, when, as the evening approaches, you discover towards the horizon, and upon the eminencies, bodies of men
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affsembled together and unemployed, with their front facing the town, you may take it for granted, that preparations are making for a considerable attack; because upon such occasions, every different corps usually furnishes its proportion of men, by which means the assault is made known to the whole army, and all those who are unengaged, and off duty, resort to the high grounds towards the close of the day, in order to observe it from thence at their ease.

When your encampment is near that of the enemy, and you hear much firing in it, you may expect an engagement the day following, because the men are discharging, and cleaning their arms.

When there is any great motion in the enemy's army, it may be discerned by the clouds of dust raised by it; which is at the same time a certain indication of something extraordinary being in agitation: the dust occasioned by foraging parties, is not the same as that of columns in march; but then it is necessary that you should be able to distinguish the difference.

You may judge likewise which way the enemy directs his course, by the brightness of the arms, when the sun shines upon them: if its rays are perpendicular, he marches towards you; if they are varied and unfrequent, he retreats; if they dart from the right to the left, he is moving towards the left; and if, on the contrary, from the left to the right, his march is to the right. If there is a great quantity of dust in his camp, which appears to be general, and is not raised by foraging parties, he is sending off his sutlers and baggage, and you may be assured that he will march himself presently after: this discovery furnishes you with an opportunity of making your dispositions to attack him on his march; because you ought to know how far it is practicable for him to come to you; as also, whether that is his intention, and what way it is most probable he will march; of which you are to judge from his position, his magazines, his preparations, the situation

tion, and, in short, from his conduct in general.—It is sometimes usual for him to erect his ovens upon the right, or left of his army; in which case, if you happen to be covered by a small river, and in that situation can discover the time of his baking any considerable quantity of bread, you can make some movement towards the side which is remote from his ovens, in order to amuse him; after which you may suddenly return again, and send ten or twelve thousand men to attack them, supporting that detachment with your whole army, as fast as it arrives: this enterprize must be executed with so much expedition, as not to allow him time to prevent its success, because you will have the advantage of some hours, before your first movement can arrive at his knowledge, exclusive of what more time may elapse, between his intelligence and the confirmation of it, for which he will undoubtedly wait, before he puts his army in motion; so that in all probability he may receive information of the attack of his magazine, before he has even given orders for his march.

There are an infinite number of such stratagems in war, which a skilful Commander may put in practice, with little, or even no risk; and whose consequences are equally as beneficial, as those which attend a complete victory, by obliging the enemy either to attack him with a disadvantage, or shamefully to retreat from him, with an army even superior in strength.

C H A P. XII.

Of the Qualifications necessary for the Commander in chief of an Army.

THE idea which I have formed to myself of the Commander of an army, is far from being chimerical, but, on the contrary, is founded upon observation and experience. Of all the accomplishments therefore
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that are required for the composition of this exalted character, courage is the first; without which I make no account of the others, because they will then be rendered useless. The second is genius, which must be strong and fertile in expedients. The third is health.

He ought to possess a talent for sudden and happy resources; to have the art of penetrating into other men, and of remaining impenetrable himself: he should be endued with a capacity prepared for every thing; with activity accompanied by judgment; with skill to make a proper choice upon all occasions; and with an exactness of discernment.

He ought to be mild in disposition; and free from all moroseness and ill-nature; to be a stranger to hatred; to punish without mercy, and especially those who are the most dear to him, but never through passion: to betray a constant concern at being reduced to the necessity of executing with rigour the rules of military discipline, and to have always before his eyes the example of *Manlius* *: he should also banish that idea of cruelty which attends the infliction of punishments, and at the same time persuade both himself and others, that severity is a term misapplied for exemplary correction, and the necessary administration of the martial laws. With these qualifications he will render himself beloved, feared, and, without doubt, obeyed.

His province is vastly extensive, comprehending the art of subsisting his army; of conducting it; of preserving it in such a state, as never to be obliged to engage contrary to his inclination; of choosing his posts; of forming his troops in a thousand different dispositions; and of seizing the advantage of that favourable minute which happens in all battles, and which is capable of determining their success. All these are circumstances of importance, and at the same time as various as the situations, and the accidents

* There were several Romans of this name; but from the subject in question, it is most natural to imagine the Marshal means *T. Manlius Torquatus*, who put his own son to death for fighting without his orders, although he was successful.

which

which produce them.—In order to discover these advantages on a day of action, it is necessary that he should be disengaged from all other kind of business: his examination of the ground, and of the disposition of his army ought to be as quick as possible: his orders should be short and simple, as for instance, *The first line shall attack, the second shall sustain!* and so on. The Generals under his command must be persons of very shallow parts indeed, if they are at a loss how to execute them, or to perform the proper manœuvre in consequence of them, with their respective divisions. Thus the Commander in chief will have no occasion to embarrass, or perplex himself; for if he takes upon him to do the duty of the serjeant of the battle, and to be every where in person, he will resemble the fly in the fable, which had the vanity to think itself capable of driving a coach.—Being therefore relieved from the hurry of the action, he will be able to make his observations better, will preserve his judgment more free, and be in a capacity to reap greater advantages from the different situations of the enemy's troops during the course of the engagement: when they are disordered, and a favourable occasion offers, he must repair with all speed to the place, take the first troops he finds at hand, and, advancing with rapidity, put them totally to the rout. These are the strokes which decide engagements, and win victories. I do not presume to point out exactly, either in what part, or in what manner, this is to be accomplished, because it is what can only be demonstrated upon the spot, by reason of that variety of places, and positions, which the combat must produce: the whole is, to see the opportunity, and to know how to benefit by it.

Prince *Eugene* was particularly eminent in this branch of the art of war, which is the most sublime, and the greatest test of an elevated genius: I have applied myself to the study of his character, and can venture to say, that I am not mistaken with regard to it, upon this head.

Many Commanders in chief, are no otherwise employed in a day of action, than in making their troops march in a straight line, in seeing that
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they keep their proper distances, in answering questions which their Aid-de-camps come to ask, in sending them up and down, and in running about incessantly themselves : in short, they are desirous to do every thing, and at the same time do nothing. I look upon them in the light of persons who are confounded, and rendered incapable of discernment; and who do not know how to execute any other business than what they have been accustomed to all their lives; by which I mean, the conducting of troops methodically. The reason of this defect is, because very few officers study the grand detail, but spend all their time in exercising the troops, from a weak supposition that the military art consists alone in that branch: when therefore they arrive at the command of armies, they are totally perplexed, and from their ignorance how to do what they ought, are very naturally led to do what they know.

The one of these branches, meaning discipline, and the method of fighting, is methodical; the other, is sublime; to conduct the latter of which, persons of ordinary abilities should by no means be appointed.

Unless a man is born with talents for war, and those talents moreover, are brought to perfection, it is impossible for him ever to be more than an indifferent General. It is the same in other sciences; in painting, or in musick, the professor must be indebted to nature as well as art, in order to excel: this similitude extends to all things that pertain to the sublime; which is the reason that persons, who are remarkably eminent in any science, are so scarce; and that whole ages pass away, without producing even one: application will refine the ideas, but can never give a soul, for that is the work of nature.

I have seen very good Colonels become very bad Generals: others again I have known, who were professed disciplinarians, and perfectly clever at the manœuvre of an army in camp; but if you took them from thence, to employ them against the enemy, they were absolutely unfit for the command

mand of a thousand men ; they would be confused to the last degree, and totally at a loss which way to turn themselves. If an officer of this stamp should come to command an army, as he would have no other resources than his dispositions, his views would extend no further than to secure himself by them ; he would also be perpetually confounding the whole army with his orders to explain them, and to render them more intelligible. The least unexpected circumstance in war, may make the greatest alterations necessary, if, in consequence, therefore, he should attempt to change his disposition, he will throw every thing into a dreadful confusion, and be infallibly defeated.

It is requisite, once for all, that one certain method of fighting should be established, with which the troops, as well as the Generals who command them, ought to be well acquainted ; by which I mean the general rules for an engagement ; such as, the taking care to preserve their proper distances in the march ; their charging with vigour ; and the filling up with the second line, any intervals that may happen in the first. But this does not require any demonstration upon paper ; it is the A B C of the troops ; for nothing is so easy ; and Generals ought by no means to pay such great attention to it, as most of them usually do. It is much more essential in a Commander, to observe the countenance of the enemy, the movements he makes, and the posts he takes possession of ; to endeavour, by a false alarm at one part, to draw away his troops from another, which he intends to attack ; to disconcert him ; to seize the advantage of every opportunity, and to make his efforts at the proper places. But then to be capable of all this, it is necessary that he should preserve his judgment quite free, and disengaged from trivial circumstances.

Although I have dwelt so much upon the subject of general engagements, yet I am far from approving of them in practice, especially at the commencement of a war ; and I am persuaded that an able General might avoid them, and yet carry on the war, as long as he pleased. Nothing

reduces an enemy so much as that method of conduct, or is productive of so many advantages; for by having frequent encounters with him, he will gradually decline, and at length be obliged to skulk, and avoid you. Nevertheless, I would not be understood to say, that an opportunity of bringing on a general action, in which you have all imaginable reason to expect the victory, ought to be neglected: but only to insinuate, that it is possible to make war, without trusting any thing to accident; which is the highest point of skill and perfection, within the province of a General: If then, circumstances are so much in your favour, as to induce you to come to an engagement, it is necessary, in the next place, that you should know how to reap the profits of the victory, which is to follow; and, above all things, that you should not content yourself, with being left master of the field of battle only, according to the custom which prevails at present. The maxim, that it is most prudent to suffer a defeated army to make its retreat, is very religiously observed; but is nevertheless founded upon a false principle: for you ought, on the contrary, to prosecute your victory, and to pursue the enemy to the utmost of your power: his retreat, which before perhaps was so regular and well conducted, will presently be converted into a confirmed rout. A detachment of ten thousand men, is sufficient to overthrow an army of a hundred thousand, in flight; for nothing inspires so much terror, or occasions so much damage, as that precipitation which usually attends it, and from which the enemy is frequently a long time in recovering: but a great many Generals avoid making the most of these opportunities, from an unwillingness to put an end to the war too soon.

I could find great numbers of examples, to support what I have just been saying, if I was disposed to quote them; but, amongst the multitude, I shall content myself with the following.

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As the French army, at the battle of *Ramillies*, was retreating in very good order over a piece of ground that was extremely narrow, and bordered on two sides by some deep hollows, the cavalry of the allies pursued it, at as slow a pace as if they were marching to an exercise, the French moving likewise very gently, and formed at the same time twenty deep, or perhaps more, on account of that narrowness of the ground, which I have just taken notice of. In this situation an English squadron approached two battalions of French, and begun firing upon them; who, imagining that they were going to be attacked, immediately came about, and made a general discharge; the noise of which so alarmed the whole French army, that the cavalry took to flight at full speed, and all the infantry precipitated itself into the two hollows with the utmost fear and confusion; insomuch that the ground was clear in an instant, and not a single person to be seen.

Can any one, therefore, after such an instance, presume to boast of the regularity, and good order of retreats, or of the prudence of those, who permit a vanquished enemy to make them unmolested? commanding officers who conform to these tenets, make but bad servants, and promote very slowly the interests of their Sovereign. Nevertheless, I do not say they ought to give themselves totally up to the pursuit, and to follow the enemy with all their forces; but only to detach proper bodies, with instructions to pursue as long as the day lasts, and, at the same time, to keep themselves constantly in good order: because, after his troops have once taken to flight, they may be driven before them, like a flock of sheep. If the officer, who is detached upon such an occasion, piques himself upon the regularity of his disposition, and the precautions of his march, it answers no purpose to have sent him: his business is to push forwards, and to attack incessantly; for it is impossible that any manœuvres can fail, but those which take up time, and give respite to the enemy.

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Thus I shall decline referring the subject of retreats, to a particular chapter, and shall finish by observing, that they depend entirely upon the capacity of the Generals, who conduct them, and upon the different circumstances and situations, by which they are attended. Upon the whole, a regular retreat is impracticable, except a conqueror is guilty of remissness in prosecuting his victory; for if he exerts himself properly in the pursuit, it will very soon be converted into a thorough flight.



LETTERS.



LETTERS.

From the King of POLAND, to Marshal SAXE.

I HAVE a great inclination to raise a body of light horse : the regiment of Hussars which I formerly had, were very far from being remarkable for their good behaviour in the war of the Confederates in Poland ; nevertheless the Prince of *Weissenfels*, and other General Officers who have served in Flanders, tell of marvellous feats, that have been performed by Hussars, and earnestly urge my raising a regiment of them. I am of opinion that troops of Walachians, will answer much better ; for the twelve, which you saw in Pomerania in 1713 or 14, have always behaved extremely well ; and I have heard great encomiums upon those, which the king of Sweden had with him in Norway ; so that I am rather inclined to give them the preference, and this the more, because they are attended with less difficulty in raising, are less subject to desertion, and their horses are better. That dislike which my Generals betray to them, proceeds, I believe, from the circumstance of their resembling the Polish troops, and you are no stranger to their aversion for those. I could not avoid taking notice, that as often as this subject was debated upon in your company, you remained silent ; and, as I cannot attribute that to ignorance, but imagine you must have some thoughts concerning the establishment and
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use of light horse, I must beg therefore that you will favour me with them, before I come to a determination about the raising of them.

Dresden, May 20th, 1732.

AUGUSTUS.

Answer.

SIR,

I WAS honoured with your Majesty's letter, bearing date the 20th of last month. My silence in the conversation which passed, upon the subject of light horse, proceeded from my ideas concerning the importance of the object: but, in compliance with your Majesty's commands, I shall now speak my sentiments with that martial freedom, which you are so good as to require of those, whom you condescend to admit to your friendship.

An army unprovided with light horse, or not having a sufficient number to oppose against those of the enemy, may be compared to a man armed *cap à pié*, who is to encounter a troop of school-boys, without any other offensive weapons than clods of earth: this *Hercules* will presently be obliged to retire, struggling for want of breath, and confounded with shame.

In 1713, your Majesty had twelve troops of Walachians, which performed great things, because the Swedes had no light horse; which was what gave us the superiority over them in the field; for the Walachians were perpetually insulting, even their grand guards: our forages, and pastures were never exposed to the least interruption or danger, whilst theirs were frequently attacked; neither could they make any detachments of which we had not immediate intelligence, and were in a capacity to defeat; at the same time that they, notwithstanding the war was carried on in their
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own country, remained totally ignorant of ours.——Thus, Sir, you see what occasioned our superiority in the field, and that it ought to be attributed to nothing but the light horse.

The king of Sweden was sensible of this, and procured from Turkey some troops of Walachians, which were supposed to be the ruin of the Danes in Norway, because they had no light horse to oppose them.

Your Majesty's General Officers have persuaded you to send back the twelve troops of Walachians, and to raise, in their stead, a regiment of Hussars; which your Majesty objects to, on account of the appearance of their having behaved ill during the confederacy in Poland, in the year 1715: but the reason of that is evident, which is that all the Polish cavalry is light, and that, if Hussars are opposed against Hussars, the superiority of numbers on either side must decide the victory. Thus I have sometimes seen our Hussars afraid to venture as far as a thousand paces, beyond the grand guards; and when we have made a detachment to support them, even that has been soon after surrounded by the Polish horse, and obliged perhaps to retreat engaging, for several leagues together: our forages were frequently alarmed; our convoys and baggage always attacked on their march; and we, perpetually under arms, without knowing any thing of the enemy, but when we saw him; which are circumstances that at length must ruin an army; and which seem at the same time to demonstrate, that however palpable any defects may be, the force of custom is so great, that there is no departing from it, to remedy them.——The General Officers of your Majesty's army, have lately recommended the levy of a body of Hussars, because they experienced the use of them in Flanders; but a war with France is the very triumph of Hussars, because the French have only a handful of them in their armies, and the Emperor has always five or six thousand: this is the reason, why the Imperialists had that superiority in the field, just above mentioned; which, if superficially considered only, does not perhaps appear to be of such great importance; but is not-

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withstanding of the utmost, in its effects; for without that, all the detachments* you send out, are in danger of being attacked and defeated; because the enemy, having intelligence of every motion you make, will be thereby always enabled to oppose them with greater. The Emperor's Hussars moreover are perpetually within sight of your grand guards, and observe all that passes in the camp; if you make a movement of any kind, they send immediate intelligence of it from the spot; and if you have a single party of horse abroad, they discover it; whereas theirs patrol about your army with all security; a circumstance which is dangerous for you to attempt, because your irregulars are not sufficient in numbers, to cover the country, and to gain the superiority in the field: they also pick up your deserters, and all sorts of persons whom they find coming from your army, which renders it difficult for your spies to pass undiscovered; and at the same time they deprive you thus of the means, of getting intelligence with any frequency, which is a very essential point, they likewise prevent desertion amongst their own troops.—Their superiority moreover furnishes them with an easy opportunity of sending, together with the Hussars, skilful officers to reconnoitre your posts, who, by examining your situation, may be able to form projects, very dangerous to your army.

The affair of *Luzzara* in 1702, appears to me quite strange, and unprecedented; for all the wars of antiquity do not supply us with any instance, of one army lying in ambuscade at the distance of only a hundred paces from the other, waiting, without fire-arms, for the favourable minute, in which it was to attack the enemy's camp.

But, notwithstanding these encomiums which have been bestowed upon the Emperor's Hussars, the Turks are much superior to them, both in lightness and numbers; insomuch that, when I was in Hungary, we never marched but in the greatest fear and uncertainty, had no manner of intel-

* The Marshal here alludes to M. *de Cerizy's* detachment during the siege of *Philipsbourg*, and to M. *Berchivi's* near *Mentz* after the siege, in 1734.

ligence concerning the Turks, and these boasted Hussars at the same time durst not venture out of sight of our grand guards; which are circumstances extremely dangerous to an army; because one is exposed to a multiplicity of accidents and inconveniencies, when totally deprived of power to guard against them, by the means of information. Ten thousand men may impose themselves upon a General, who is inferior in the field, for the whole army, provided the commanding Officer executes his part upon such an occasion, with proper skill and assurance. In short, without this superiority in the field, one marches as much in the dark, in a manner, as the blind.

But a superior number of light horse, is, notwithstanding, far from being the most eligible remedy to obviate all these inconveniencies, because they are attended with a great expence, and, as you are not to lay any stress, or dependance upon them for solidity, do not add to your strength in cavalry, on the day of action: large bodies of them upon the flanks of your army, are even dangerous; which we have but too often experienced in the war with the Swedes in Poland, and that even at the battle of *Kalish* *, which your Majesty is very sensible of; it is necessary therefore to have recourse to other measures: the French have established certain bodies of light horse, under the name of free companies, to remedy these evils; which are posted in houses, in the *environs* of their camps, from whence they make some excursions; but, being no better mounted than dragoons, they are incapable of moving much from their quarters; and although they may contribute a little towards the ease and relief of the army, yet they are far from answering the purpose effectually.

There is not a Sovereign in Europe, who has it so much in his power to establish an excellent body of light horse, as your Majesty: your troops have been accustomed for these twenty-six years past, in different wars, to fight against light horse, and to contend with superior numbers; the grand

* The king of Poland was present at this battle.

point is to keep steady, and maintain their ground, which method of behaviour they have naturally learnt, from a consciousness of the impossibility of flying upon horses so large and heavy as theirs: if they were mounted upon light horses, and lightly accoutred, I am persuaded they would presently put a stop to the insults of the enemy's irregulars, which proceed from nothing but the impunity that attends them, and the facility of their flight; to prove which, I shall beg leave to introduce the following example.

At the camp of——in Italy, M. *de Vendome*, being provoked at the enemy's Hussars, who appeared every day in great numbers in the front of his encampment, declared he would fall upon some measures to chastise their insolence; upon which an officer belonging to the Spanish cavalry, proposed to rid him very soon of them, provided he would permit a regiment to be sent for from the Spanish army, which was then encamped but a little way off: M. *de Vendome* consenting, the regiment arrived the same evening, and, being disencumbered from its baggage, was before day-break posted in ambuscade in the rear of the grand guards. The day after, the Hussars came, as usual, again, when the Spaniards sallied out at full speed from their different quarters, and with their long swords made a dreadful havock amongst them. The effect of this was, that not a single Hussar was seen during the remainder of the campaign; which makes it evident, that they will never approach an enemy, but when they imagine it may be done with impunity. Their manner of retreat moreover, is a precipitate flight; whereas they ought to retire slowly, and be able to engage at the same time; which is what your Majesty's troops have been habituated to by long practice: a hundred of your horse, will make a retreat in the presence of a multitude of these irregulars, because they have acquired experience from an uninterrupted succession of events, and have learnt to act from principle.

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If then your Majesty approves of my reflexions upon this subject, a thousand of the shortest sized men must be chosen out of all your army, and such officers appointed to command them, as are noted for courage, skill, and understanding: they must be formed into twelve troops, according to which division a troop will consist of about eighty; so that if, by any means, there should happen to be a future deficiency of even thirty, there will still remain fifty; which is the usual number of a troop of cavalry in time of war, in all regular services.

I have already observed that the smallest sized men are the best, because it has frequently been proved that a horse which will carry a man thirty leagues in a day, whose weight does not exceed eight or nine stone, which is usually about that of a man of five feet two inches high, will hardly be able to carry one of from ten to twelve stone, half the same distance; and, in swiftness, will lose from a hundred, to a hundred and fifty paces, in a thousand.

All their arms, as well as accoutrements, are to be extremely light. With regard to horses, your Majesty may furnish yourself with very good ones out of the strings brought by the Walachian dealers to *Otakir*, from *Rougiac*, from lower *Arabia*, and from *Romelic*, which are infinitely better, swifter, larger, and higher mettled, than the Hungarian ones; neither will they cost more than those from *Holftein*, which are made use of in the Saxon cavalry.

The advantage resulting to your Majesty from the establishment of such a corps, will be very considerable; because, although it is light horse, yet it will have the solidity of your best regiments, and be very well able to fight either on foot or horse-back: but it ought not to do duty in the army, because if it be obliged to encamp in the line, to furnish escorts, covering parties, grand guards, and foraging parties, it will be impossible for it to answer the purpose for which it is intended. It must always have several parties

parties abroad, to reconnoitre wherever the Commander in chief shall order; and when the Colonel of it has any projects in view, he is first to apply to Him, for his permission to put them in execution; after having obtained which, he must be left entirely to his own discretion, and be by no means circumscribed or constrained in his measures.

Many Generals are deterred from attempting enterprises, which are very practicable, from an apprehension that their reputation depends upon the event: for which reason I would recommend it to your Majesty, to have this regiment distinguished by the name of *Voluntiers*; which answers to the idea of free Companies, upon the French establishment. When the army is to decamp, they are to march off with the quarter-masters and camp-colour men, in order to scour the country; but if the ground is such, as not to permit their marching in the same route, they must be left to choose another for themselves; so that they take care not to fall in with the army, but rather to make a little excursion of a few leagues out of their way.

The ground for their encampment in the *environs* of the army, should be left to their own choice, with regard to its nearness, to water, wood, pastures, and the dryness of the situation; for all these things contribute to the preservation of such a regiment, and support it in proper order for the laborious service, that is required of it. If there are any towns, walls, or houses, within about a league's distance, in the front of the camp, it may be posted there; in which situation the army will remain at ease, and free from alarms, because no light horse belonging to the adversary, will dare to pass it; and to attack it, will be a very dangerous undertaking, as it must be instantly sustained by the picquets: the enemy could not possibly make any such attempt, without being exposed to the worst consequences, of which the affair of *Moskolini's* villa in Italy is a melancholy instance, where Prince Alexander of *Wurtemberg* sacrificed the lives of so many brave fellows to no purpose.—But I am always falling into digressions; nevertheless, your Majesty will perhaps excuse them, as they proceed from the importance
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of our subject, and my great opinion of the usefulness of this corps, which I am recommending.

If your Majesty is convinced, you ought not to defer the raising of it, till you have a war ; because a new regiment, composed entirely of recruits, has no manner of steadiness, or solidity, of which it is impossible that this can have too much : if therefore the forming of it is postponed, till the moment in which you want it, your money will be only thrown away, and your expectations at the same time disappointed.

MAURICE de SAXE.

Conclusion of one of the Count's Letters to a Friend, on the foregoing Subject.

MY letter was shewn, and criticised upon by all the General Officers ; nevertheless, I have all the reason to think, it was agreeable to the king, both by the answer which I received from him, and by the raising of the regiment, which was presently after begun. During these transactions, the king died ; but the Elector of Saxony continued the levy ; and, moreover, approved so much of the plan, as to form two regiments upon it, one of which was conferred upon M. *Sibilski*, and the other upon M. *de Milekau* ; two officers of irreproachable credit. The inferior officers were furnished in equal proportions by all the troops, and the number of small sized men amongst them not being sufficient to complete, about six hundred hunters were added, to make up the deficiency. These two regiments, to which they gave the name of light horse, sustained all the drudgery of the war in Poland ; but the most remarkable exploit they performed, is that which I am going to relate.

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The Palatine *Tarlo* was field-marshal of the confederate army for king *Stanislaus* of Poland, and might have about twenty-two, or twenty-three thousand of the troops of that republick under his command. As Saxony was not very strongly guarded, and as the Saxon troops were likewise at this time dispersed in different quarters all along the *Vistula*, the Palatine flattered himself that it would be very easy to invade Saxony at *Chargau*, where there was only a post of a hundred and fifty men. The Prince of *Saxe Weissenfels*, who foresaw his design, went with all expedition to *Posnan* in Poland, which is twenty-four leagues distant from *Chargau*, where having assembled the two regiments of light horse, and about twelve hundred of the heavy cavalry, he put himself at their head, and, by forced marches, soon came up with the Palatine, who had been retarded a day in the taking of *Chargau*; immediately after which, he attacked him, routed him, and pursued him for thirty leagues. The Palatine in this action lost all his artillery and baggage, and the remains of his troops were so much dispersed, that it was with great difficulty that he himself escaped, together with fifty of them, to *Koningsburg*. The twelve hundred heavy horse were only present at the first charge, because they were never able to overtake the light horse, who continued firing, and pursuing incessantly for two days; and who made dreadful havock amongst the Poles, crowded and embarrassed in the defiles, which they were forced to pass in their retreat.

When the troubles in Poland were put an end to, king Augustus was obliged to send his Saxon troops back to their own country; and not being able, according to the established laws of the realm, to keep more than fourteen hundred Saxons for his guard, he gave these two regiments of light horse the preference over all the rest of his troops, reduced them to six hundred each, and, sending the remainder into Saxony, completed them to the stipulated number, with the addition of two hundred of his guards.

In the month of April, 1740, I proposed to the court of France, to bring over one of the regiments into the king's service, which the king of Poland would have given me; and I required no more than twenty-five livres per month for the recruiting fund of the whole regiment, from the colonel down to the drummer; offering at the same time to bring them as far as *Landau*, at my own expence.

MAURICE de SAXE.

To M. DE FOLARD.

ONE cannot fail, my dear Chevalier, of being highly instructed, as well as entertained, in a correspondance with you upon military matters, which subject you treat in the sublime, with a grace and authority peculiar to yourself.

I have here sent you the sequel of my account of our transactions.

I arrived before *Prague*, the 18th of November; and on the 20th the Saxons joined us, to the amount of twenty thousand of the best and lightest troops. M. de *Gassion* likewise arrived with his command the same day, so that I was upon the right, M. de *Gassion* in the center, and the Saxons upon the left, whose heavy artillery was left twelve leagues behind, for want of horses to draw it. The first days were spent in reconnoitring the place. The 22d I wrote the following answer to a letter which I received from the Elector.

S I R,

I Received the honour of your Electoral Highness's commands to make a detachment of a thousand horse, six hundred dragoons, and five or six hundred foot, with some Hussars, in order to pass the river *Moldaw*, and to

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raise a contribution of forage for a magazine at *Conigsaal*. I should obey these your Highness's orders, but my bridge upon the *Moldaw* not being completed, I should run the risk of losing these troops, if they were obliged by any accident to retreat; especially as it is not improbable, but the advanced guard of the enemy will arrive to-morrow: I cannot therefore send this body to the other side of the river, without exposing it to apparent danger. If the enemy is there, he will certainly be superior, and prevent my being able to procure this forage; if, on the other hand, he is not there, a detachment of three hundred horse, which has passed the river to day by my orders, under the command of M. *de Beauveaux*, will reduce the inhabitants to a necessity of providing it, together with a sufficient number of carriages to convey it afterwards to the proper place.

I shall not trouble your Highness with any further account of the inconveniencies, that would have attended the making of this detachment; but shall take the liberty to make a sudden transition to a higher detail, concerning our situation.

Your Highness will be so good as to recollect, that when we were at *St. Hippolyte*, I assumed the freedom to say, that we ought to take post upon the *Danube*, at *Crems*, and to fortify the two sides of the bridge which was erected there: that by so doing we should prevent M. *de Neuþerg*, from taking post at *Tabor*, and facilitate the siege of *Prague* by M. *de Gassion* and the Saxons, which would then be carried on, without the enemy's daring in the least to oppose it; and that by such a disposition, we should be enabled to preserve the conquest which we came to make, of upper Austria.

Your Highness thought proper to retire from the *environs* of *Vienna*, and march to *Budweis*, and from thence to *Prague*; but you will please to recollect how much I objected against this proceeding, and pressed the necessity of our taking post upon the *Tabor*.—You was too precipitate

cipitate in coming before *Prague*; are unacquainted with places from your own knowledge, and have abandoned a post of great importance without necessity; insomuch that the loss of upper Austria will be the consequence, and we shall be deprived of the conquest of Bohemia, unless we repair the fault by an immediate change of conduct.

We have at present near forty thousand men; we must therefore tomorrow throw bridges over the *Moldaw*, and march to meet the enemy, who is advancing towards *Prague*: with all this force we have nothing to fear, and shall be in a capacity to make such dispositions, as will enable us to wait the arrival of M. *de Leuville's* command, and of the Bavarians, who will join us in six days: we shall then have the superiority in numbers, as well as in the quality of our troops. The reduction of *Prague*, and of Bohemia; the preservation of upper Austria, and its provinces, and of the army, will be the consequence of this step; which if you defer taking, the want of subsistence will soon oblige you to abandon Bohemia, and to retreat into Bavaria; where the same grievance will still subsist, and occasion the destruction of both the French troops, and your own.

Excuse, Sir, the freedom I have taken, in making these representations; but I thought them necessary, because it appeared to me, that you was inclined to intrench yourself, and to defend the *Moldaw*, which is a proceeding that may be attended with the most fatal consequences.

I am with respect, &c.

In the night of the 24th his Highness sent me the following order.

COUNT SAXE will be so good as to pass the *Moldaw*, as early tomorrow morning as he possibly can, and march as far as he shall think it consistent with prudence to venture; after which he will try to get what intelligence he can of the enemy, and transmit the same to his Electoral

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Highness.

Highness. He will also endeavour to collect at the bridge of *Konigsaal*, the necessary quantity of forage, grain and meal; as likewise that of cattle.

He will take with him all the horse, and dragoons that are in proper order to march, leaving their tents, baggage, and standards behind: he will be followed by seven hundred foot, in which are included four companies of grenadiers: he will give orders for his men to be provided with bread for four days; and in case he has not a sufficient quantity for such a supply, he must send advice thereof to M. *de Sechelles*, who will furnish the deficiency.

He will take with him one of the Marshals *de camp*, and will remain on the other side of the *Moldaw*, as far advanced towards the enemy, as he can without danger: he will also to-morrow, order out a detachment, composed of the Saxon infantry, and twelve hundred horse, to cover the high road, towards the hill of *Kuttenburg*. The Count will be so good as to concert measures with the commanding officer of his detachment, and keep up a communication with him, that they may be a mutual support to each other, in case of need.

The Hussars being to arrive to-morrow, or the day after, will march to join the detachment of Saxons, from which two hundred are to be sent to that of Count Saxe.

A duplicate of this order has been sent to count *Rudowski*, that he may likewise be enabled to act on his side, conformably to the measures which are taken.

The following is the answer which I wrote to his Highness.

S I R,

I Received your Electoral Highness's commands, which I shall take care to put in execution: but you should have indulged me with one of your commissaries; for I freely acknowledge, that I am quite ignorant with
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regard to their province ; and more especially too, as all my attention must be taken up in opposing the enemy, when he arrives ; which will probably be to-morrow, or the day after. Let every man be employed according to his proper profession: for my part, I cannot persuade myself, that the principal intention of my being ordered upon this command, is to raise contributions: the study to prevent the enemy from throwing succours into *Prague*, to stop the progress of his advanced parties, so as to oblige him to assemble his whole army, and to gain time for your taking that place, appears to me more essential, and will engage the utmost of my little capacity.

If by means of my expedition, it was practicable to obtain the forage, and cattle, that you demand, I believe it would be of service to us: but the situation of things is too critical, for me to be able to attend to that, and at the same time to retard the approach of the enemy. Be so good therefore as to allow me a capable Commissary, on whom it may more immediately depend ; or, in order to render that unnecessary, take *Prague*, and there you will have every thing in abundance.

I have the honour to subscribe myself, &c.

Early in the morning the 25th I passed the *Moldaw*, between *Konigsaal* and *Prague*, with sixteen troops of carbiniers, twelve of horse, twelve of dragoons, four companies of grenadiers, and eight hundred battalion-men: but I had no sooner passed the bridge, than I received intelligence, that fourteen thousand of the Queen of Hungary's troops were advancing by forced marches, expected to enter *Prague* the day following, and were followed by the enemy's whole army ; upon which I immediately writ the following note to the Elector.

S I R,

I HAVE just now received intelligence, that fourteen thousand men are intended to be thrown into *Prague* to-morrow ; we have therefore no other resource remaining, than to escalate it. The two thousand men that
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compose the garrison, will not be sufficient to resist our efforts, if we attack it in four different places at once; and with regard to the inhabitants that have been armed, although their numbers may be large; yet we ought by no means to be deterred from the enterprise by them.—If then your Highness will assign two attacks to the Saxons, the one on your side; and the other, by the detachment, which you ordered to cross the *Moldaw*, and that passed it, I imagine, about the same time that I did; I will make the third, on my side; and M. de *Gassion* with his command, will make the fourth. If this project is not agreeable to your Highness, I will march to meet the Hungarian troops; and in case I find myself unable to maintain my ground against them, I shall retreat towards the bridge of the Saxons, leaving *Prague* upon my left; because it will be impossible to repass the river over that, which is between *Konigsaal* and *Prague*. The Saxons must be ordered not to march too far, lest they should be cut off by the body of the enemy, that pursues me.

I am with respect, &c.

I then marched to *Kundratitze*, and from thence arrived at two o'clock in the afternoon before *Prague*, in order to reconnoitre the place, and to determine where I should make my attack, immediately after which I received the following billet from the Elector.

SIR,

I DEFER answering your's any further, than just to inform you, that the bridge of the Saxons, cannot be finished till to-morrow evening, at soonest; but I would not have you depend upon it, till the day after, for fear of a disappointment.

I am, Sir, with the greatest esteem, yours, &c.

I immediately wrote the following answer.

AS the bridge of the Saxons will not be completed till to-morrow, I shall march to meet the enemy upon the road from *Tabor*, in order to prevent his advancing, as much I possibly can. It is so cold, that I can scarcely

scarcely either hold my pen, or read what I have writ; I must therefore beg you'll excuse it, and am with respect, &c.

I directly sent back M. *de Mirepoix*, with a thousand foot, to the bridge which I had passed, with orders to intrench himself upon an eminence, that is opposite to the head of it; the intention of which was, that in case I was pursued, I might be able to retreat, and to pass the river under cover of his fire.—I marched back with the cavalry to *Kundratitz*, to pass the night there, knowing it to be a very good post for cavalry, from whence I detached some advanced parties on the road towards the enemy. At six in the evening I received the following order from the Elector.

THE bridge of the Saxons not being finished, Count SAXE will not be able to make his retreat that way.—We have determined to make a real attack at the port of *Carsthor*, and hope to carry it; in case it does not succeed, it will pass for a feint. Our troops are to file off at night into the defiles, that they may be in readiness to begin the assault, at two or three in the morning: but we shall wait for two false attacks, that are to be made by the French, and Count SAXE an hour before, in order to draw off the greatest part of the garrison from the port of *Carsthor*, where a picquet-guard of a thousand men mounts every night.—At the bottom of the order was added,

I beg, Sir, you'll conform to these instructions, and not fail to make your assault, either false or real, according as you shall think proper, so that it be with a prospect of succeeding, and consequently without exposing the troops unnecessarily.

Upon this, I immediately recalled M. *de Mirepoix*, collected some ladders, and prepared two beams with cords, to serve by way of a battering ram. As soon as M. *de Mirepoix* arrived with his detachment, we marched towards *Prague*.

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As the part which I had before begun to reconnoitre was too strong, being the citadel; I moved on, till I came to the port *Neuthor*. I made my disposition, as I marched along, and as I approached the town, I heard *M. de Gassion's* attack, at which time it might be about one o'clock. I then halted, and while the ladders were distributing, together with the powder and ball, I advanced, with Colonel *de Chevert*, to examine where we should make our attack: I conveyed myself into the ditch, which had no revetement on this side: near *Neuthor* I found a bastion, thirty-five feet high, and reveted with brick; a ravelin upon the curtain, with two draw-bridges; opposite to which, there was a kind of plat-form, occasioned by the rubbish and dung of the city, that was near as high as the level of the rampart. As I was pressed in point of time, *M. de Gassion* having already made his attack, I could not stay to reconnoitre the place any further; and as our ladders were long enough to reach the top of the wall, I resolved to escalate it by the flank of the bastion of that polygon, which was next to the port. I told *M. de Chevert*, that I should cover his assault with a fire from the plat-form opposite, and that I should, at the same time, attack the draw-bridge, and the ravelin. We were now returned to the troops, having done all this with so much silence, that the sentries did not discover us. I then dismounted six hundred dragoons, and four hundred carbiniers; and having twenty troops of horse remaining, I posted them upon the high road, with orders to hold themselves in readiness to march into the town, the moment that I had forced the gate.

The ladders being distributed amongst the first grenadiers, I ordered the first serjeant to mount with eight of them, and not to fire at all, whatsoever should happen; but to stab the sentries, if they possibly could, and to defend themselves with their fixed bayonets, if they met with any opposition upon the rampart. *M. de Chevert*, with the four companies of grenadiers, was followed by four troops of dragoons, and the picquets of the infantry. The serjeant mounted according to his orders, without being seen by the sentries, till he had gained the top of the rampart; upon which

which the enemy hastened to the charge, fired a great deal, and came to close quarters with our grenadiers, who defended themselves with their fixed bayonets, and maintained their ground very obstinately, till M. *de Chevert* had mounted, who was presently followed by the four companies of grenadiers, and the remainder of the detachment: but as they were in a great hurry to enter, and crowded too much upon the ladders, a great many of them broke, which accident might have been attended with very bad consequences; however, I immediately sent an officer to reinstate matters, and to regulate the escalade; after which I hastened to the draw-bridge, and the gate, with eight troops of dragoons, whose fire had served to cover M. *de Chevert's* assault, and with the carabiniers; giving orders at the same time, for the picquets of infantry, to supply their place. The moment I entered the ravelin, and was advancing towards the gate, *Chevert* having forced the guard-house from behind, let down the draw-bridge for me; that which led to the ravelin, was also let down at the same instant, and I made the twenty troops of horse enter at full speed, in order to take possession of the streets. I had commanded the officers, to put every man to death who dismounted to plunder; and likewise all the foot-soldiers, whom they found dispersed about the streets, of which I took care before hand to advertise the infantry, as well as the dragoons, and carabiniers, whom I had dismounted, in order to prevent disorders.

The moment we had thus entered the town, the Saxons begun their two assaults at the appointed quarters, with a very great fire. I left eight troops of dragoons at the port; lodged the picquets in the adjoining houses; posted two troops of dragoons on each side, upon the rampart, to cover my flanks; and marched with the four companies of grenadiers, and the horse, directly to the bridge of the city, in order to favour the entrance of the Saxons, whose attack was still continued with great vigour. When I arrived at the town-house, I found the Governor, who offered me the keys of the city; immediately after which,

an aid-de-camp came from Marshal *Ogilvie*, to inform me, that he surrendered himself my prisoner. I marched on to the bridge, and, having secured the possession of it, waited upon Marshal *Ogilvie*, of whom, after the usual civilities were passed, I demanded an order, for the Commandant of the citadel to deliver it up, which he gave me; I therefore immediately took possession of it, and the Saxons entered a few minutes after.

Prague is one of the largest cities in Europe, and requires above twenty battalions to defend it: the present garrison consisted of only two thousand soldiers, with six thousand armed citizens. It was taken the same day, on which my grandfather took it in 1640; and furnishes the first instance of a town being carried, in the night-time, and sword in hand, by the French, without being plundered.

Prague, Nov. 28th, 1741.

MAURICE de SAXE.

P. S. I have just received the following order from the Elector, which shews how well I was informed concerning the approach, and designs of the enemy, and likewise what little time we had to lose.

S I R,

YOU will march with your detachment towards the enemy, at break of day to-morrow. It is proper that you should know for your instruction, that the main body of the enemy was this day at *Forchiel*, *Dnespech*, and *Beneschau*, with the Duke of Lorrain; and that a thousand Croats, and some horse, were advanced, with an intention to be thrown into *Prague*, the very day we carried it; you will therefore take your measures, so as not to expose yourself to any danger of being cut off.

I am, Sir,

Your's, &c.

To

To the same.

I HAVE been silent for a long time, my dear Chevalier, and it is also a long time since I have heard from you; but the fault lies on my side, and I freely acknowledge it: having been in a perpetual scene of hurry and trouble, I was unwilling to make my distresses the subject of a letter, for my heart is too free and sincere, to avoid disclosing itself when I am writing to you; and this has been the occasion of my silence.

I am now at *Deckendorf*; and command in this country, since our army passed the *Danube* at *Starambol*. I have obliged the enemy first to quit *Ober-Altach*, and afterwards this post, by a stratagem pleasant enough, of which the following are the particulars.

I knew the enemy had some *Hussars*, and light infantry in the passes and defiles between *Ober-Altach* and me, but as their numbers were small, I imagined they were only posted there, to give intelligence of my coming, and that they would retire at my approach. Accordingly, I collected at *Straubing* a sufficient number of boats for eleven battalions, which I intended to convey upon the *Danube* beyond all their posts, and to disembark below *Deckendorf*, in order to cut off the retreat of the two battalions that were there, and to prevent any thing from escaping. I had sent, the 24th of last month, different parties all along the river *Regen*, with orders to re-assemble at the *Danube* the 2d of this month; on which day I embarked them, and detached my cavalry, together with some infantry, to attack the enemy's posts upon the borders of the *Danube*, and to draw off their attention that way: during this time I fell down the tide, and arrived before *Deckendorf*, without the garrison's knowing any thing of it, till I appeared in fight: and I should have succeeded completely, if an accident had not happened to one of the boats, loaded with four companies of grenadiers, which split against a pile, and, thereby detaining us for an hour,

hindered our arriving at *Deckendorf*, till it was growing dark ; and as there still remained in the river, the piles of a bridge, which I had burnt this summer, I was afraid to risk the passage of the boats, thus loaded with troops, in the night-time, and therefore was obliged to land them above the town, which gave time to the greatest part of the garrison to escape by flight ; however, we took all their baggage, and a few hundred prisoners.

But these are far from being the only advantages, resulting from the enterprise ; for this post served to cover the enemy's magazines upon the banks of the *Danube*, which have been totally abandoned, and have fallen, together with all their escorts and covering parties, into the hands of my detachments : in one place we took two hundred and fifty waggons ; in another, a hundred and fifty thousand rations of biscuit ; in a third, pontoons upon their carriages ; in a fourth, a thousand barrels of meal ; and prisoners every where : in short, the whole country between this and *Passau* was cleared in two days. The enemy moreover, having intended to lay siege to *Bruneau*, had furnished themselves with some artillery from *Passau* for that purpose, which they have sent back again in the greatest hurry, and have also augmented its garrison, which before consisted of only six hundred men.

These are the circumstances that have attended this adventure, which I communicate to you, because I doubt not but they will afford you some entertainment.

MAURICE de SAXE.



* REFLEC-



* REFLECTIONS
UPON THE
Propagation of the Human Species.

AFTER having treated of a science, which furnishes us with means for the destruction of the human race, I am now going, on the other hand, to propose methods towards facilitating the propagation of it.

* My intention at first was not to have given these Reflections to the Publick; but it is what I am at length resolved to do, in order to shew, how little they deserve that imputation of weakness and infamy which has been cast upon them by certain persons; some who have never read them, and who have no other authority for what they pretend to know, than barely hearsay. On the contrary it will appear, that all the author advances upon this subject, proceeds from a good intention; and from an opinion, that to banish libertinism and debauchery, would be one method of promoting the propagation of the human race. If therefore he happens to be mistaken in his argument, can his error be reasonably regarded as a crime?

I believe all the world will concur with me in opinion, that the Marshal was a greater General, than he was a Civilian; and that these limited marriages which he recommends, instead of doing good, would on the contrary make a dreadful confusion amongst society; for how many children, void of both fortune and education, would perish through want, when abandoned by the caprice of their parents? Would it not be much better, for the world to be only inhabited by a few, who would enjoy ease and abundance,

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There is no kind of subject whatsoever, which does not sometimes occur to one's reflections, when disengaged from all business. The extraordinary diminution of mankind since the time of *Julius Cæsar*, is a circumstance that has very often engaged my attention: it is certain, that the people almost innumerable, who inhabited Asia, Greece, Tartary, Germany, France, Italy, and Africa, have diminished in proportion as the Christian Religion has been propagated in Europe, and the Mahometan in other parts of the world. This decline moreover continues visibly increasing every century: it is about sixty years since *M. de Vauban* made a calculation of the numbers of inhabitants in France, which he found to amount to twenty millions; but they are far from being equal to that at present.

I am persuaded there will one day be an absolute necessity to make some alteration in our religion with regard to this circumstance; for if one considers how many institutions it establishes, which are an hinderance to pro-

rather than by a multitude of wretches and vagabonds, who would renew the ravages of those barbarous nations which overrun, and depopulated all Europe? This liberty moreover of separation after marriage, is of very little consequence with regard to propagation; for it is no more than what is secretly practised in these times, although it may want the sanction of a law to confirm it. If mankind diminishes in number, let us not attribute the cause of it to the fetters of marriage; for, alas! there is nothing, to which we now-a-days make ourselves so little slaves, as to conjugal fidelity.

In former times epidemical diseases prevailed, such as the plague and leprosy, which made dreadful havock amongst mankind; and that which passes under the name of venereal, only replaces others, that are now unknown to us. But all these calamities, to which human nature has been exposed, have never made such desolation in the world, or have been such enemies to propagation, as that contagious malady, which reigns at present; by which I mean, *Luxury*: formerly it was confined to the palaces of the Great, but now it prevails even in cottages; and is that which multiplies our wants, and renders children a burden to their parents, because their maintenance and education become thereby attended with extraordinary expences. We were much happier in those times, when plainness and frugality were not accounted dishonourable: the son of a peasant, is now brought up with more pride and delicacy than a prince.

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pagation, this diminution of the species will no longer be so surprising. The frequency of marriage is very much prevented by it, and the flower of a woman's youth is often spent in waiting for a husband: but nature during this time is unwilling to be deprived of her dues, and commits trespasses, by which the generative faculties become at length enervated: debauchery of every kind takes place, and the very name likewise of passing for a virgin, contributes not a little, to this decline of which I am speaking. Add to this, that a woman who bears no children to one husband, might notwithstanding to another; because married couples frequently grow irksome to each other, and live in a perpetual state of discord and uneasiness: in short, the whole system is repugnant to the law of nature.

According to the holy Scripture, the first command which God gave to man, was, *Increase and multiply!* nevertheless it is that which, of all others, engages the least of our consideration.

If moreover we consider the prodigious number of persons, who live in a state of celibacy, from the pretence of being unwilling to leave children poor and unprovided for, we shall find it to be one of the causes, that contributes most to the diminution of the human species.

But upon the whole, if we reflect how much all nature is subject to revolutions, we shall be induced to imagine, that there are some ages, in the course of time, which are more or less assisting to propagation, than others: are not the productions of the earth diversified, and is it not observable, that some years are plentiful, and others barren? If there are certain powers, which occasion the sterility of the earth, is it not probable that there are also some which have an equal influence over the animal creation? Let us not doubt it; especially as we see, that some climates are much more favourable for propagation, than others; as, for instance, the province of *Kiansi* in China, where the women are so fruitful, that they are always with child, and bring forth three or four at a birth: this fertility peoples the country with such a multitude of inhabitants, that although the earth bears three or four crops in a year, yet its productions are not sufficient to support them; insomuch that the greatest part of the natives, are obliged to abandon it for bread, and to get a livelihood as vagrants, in the provinces of Asia.

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If nature is refused what she demands, the powers of engendering become lost; and out of a hundred women, who have devoted themselves to religion in convents, there are scarcely ten, that are capable of generation: how many therefore must there be in a state, that are absolutely useless, and unfit to discharge the important duties, for which the author of nature created them? Let us likewise examine, both in town and country, whether with regard to the ability to bear children, it is not in general, as ten to one in favour of the unmarried, against the married.

A Legislator, who would form a system upon propagation, by the prudent establishment of such laws as were likely to contribute the most to that end, would lay the foundation of a monarchy, that could not fail of becoming one day formidable to the whole world. He ought in the first place to eradicate debauchery; which, so far from being dictated by nature, is one of her most inveterate enemies; it would be necessary therefore to inculcate by education, that sterility is one infallible consequence of it, which, after the age of fifteen, should be accounted dishonourable; and that the more children a woman had, the happier would be her situation; which might very well be accomplished, by an institution, that the produce of every tenth day, whether it be from their revenues, or their labour, should be consecrated to the mother; as her expectations therefore of future ease and happiness must increase with their numbers, she would be as industrious as possible in bringing them up. It should likewise be ordained, that every mother, for ten living children produced before a magistrate, should have a pension of a hundred crowns; of five hundred, for fifteen; and of a thousand, for twenty. This prospect for the common people, would be a powerful incitement to the taking care of their children, which every mother from her youth, would not only make a capital point of herself, but would instill the same principle into her daughters.

It may perhaps be objected, that the fathers would be afraid of being incumbered with too many children; but in answer to that, they are not
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attended with much expence, so long as they continue infants ; and it is a general remark, that the more children a tradesman, or peasant has, the better his affairs are carried on, because from the age of six, or seven years, they become useful to him.

But the most effectual means of peopling the world, would be by establishing a law, that no future marriage should endure for more than five years ; or be renewable without a dispensation, in case there was no child born in the course of that time : that such parties likewise, as should have renewed their marriage so often as three times, and have had children, should be afterwards inseparable, and live together during the remainder of their lives. All the Theologians in the world would not be able to prove any impiety in this system, because marriage was instituted by divine authority on no other account, but that of population.

If the Christian Religion is contrary to propagation, in rendering marriages indissoluble, and in admitting of only one wife, the Mahometan is not less so, in assenting to a plurality : for out of the great number that are married to one man, there is generally but one who is in possession of his affections, and the others, who are converted into his slaves, remain useless with regard to propagation. The men exercise a tyrannical authority over this charming sex, because it is they, who made the laws, what they are in their present state, as being most convenient to their own selfish purposes. The Turks lock up their wives, and we, from custom, assume absolute dominion over ours ; from whence proceeds that falshood so notorious in women, because we have reduced them to the necessity of disguising their real thoughts, by not having consulted nature in the settling of their department. If it was the established practice for them to be governed by inclination in the choice of their husbands, and to marry for a limited term, we should never find them guilty of practices, that were either in the least unnatural, or destructive to the

constitution: the season for love, when it arrived, would be totally consecrated to its rites: debauchery would be utterly abolished, because neither sex would be any longer tempted to satisfy the demands of nature by such resources; and marriage, accompanied with so much freedom and indulgence, would become an object of universal desire. The introduction of such a law, would put a stop to the increase of this evil, which spreads itself over all the world, and continues, from day to day, to impair the human species: in order to ascertain the truth of this, we need only to consider the difference of a people, where it has begun to make its first advances, comparatively with another, where it is less established. Let us see by a rational calculation, the disproportion it will occasion with regard to propagation.

If every individual female only brings forth one daughter, that lives to maturity; consequently one woman will produce no more than one woman to the state, during her own, and every succeeding generation: we will take six generations, each to consist of thirty years, the amount of which will be 180; and allow that a woman will produce two females to the state in every one.

Issue of the first generation	-	-	-	-	-	2
— of the second	-	-	-	-	-	4
— of the third	-	-	-	-	-	8
— of the fourth	-	-	-	-	-	16
— of the fifth	-	-	-	-	-	32
— of the sixth	-	-	-	-	-	64 women in 180 years.

The difference therefore of a woman's producing two, instead of one, will be as 1 to 64.

If we allow that women in general may bring forth three, which grow to maturity, in thirty years, it is no more than what is very common, for such as are happily married; considering at the same time how many there

there are, who exceed that number : I shall therefore, in the following computation, suppose this to be at least the proportion, where women are influenced by affection, by a principle of religion, by interest, or by the laws of nature.

Issue of the first generation	- - -	3
— of the second	- - -	9
— of the third	- - -	27
— of the fourth	- - -	81
— of the fifth	- - -	243
— of the sixth	- - -	729
women in 180 years : If to which we add the		
like number of men, it will amount to 1458. Consequently in the course of six generations,		
Ten women will produce	-	14580
a hundred	- - -	145800
a thousand	- - -	1458000
a hundred thousand	-	145800000
a million	- - -	1458000000

Thus, upon a supposition that every woman will bring forth six children in thirty years, one million, which is near the tenth part of the number that is in France, will have produced in a hundred and eighty years, fourteen hundred and fifty-eight millions of souls : this is a most amazing number ; and although we should even take away three parts out of the four, the remainder will still be prodigious.

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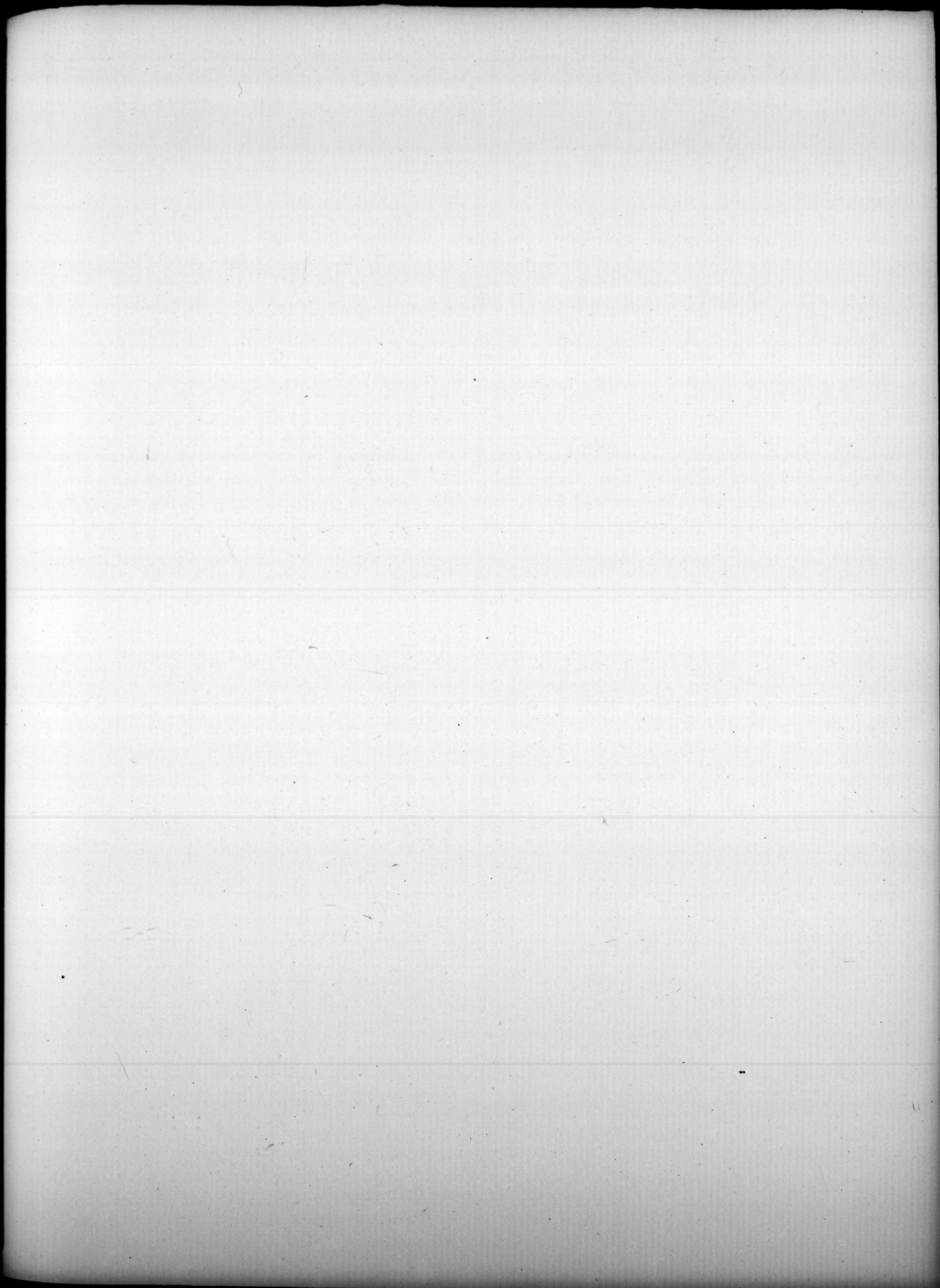
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The General of the Legion, or Legionary General.



A Colonel.



A Lieutenant-Colonel.



A Major.



An Adjutant.



A Centurion, or Captain.



A Lieutenant.



A second Lieutenant.



An Ensign.



A Serjeant.



A Corporal.



A Serjeant-Major.



A Fourier.

Explanation.



A Captain at arms.

tenant.



A Drummer.



Light armed Foot.



Infantry.



Cavalry.

Major.

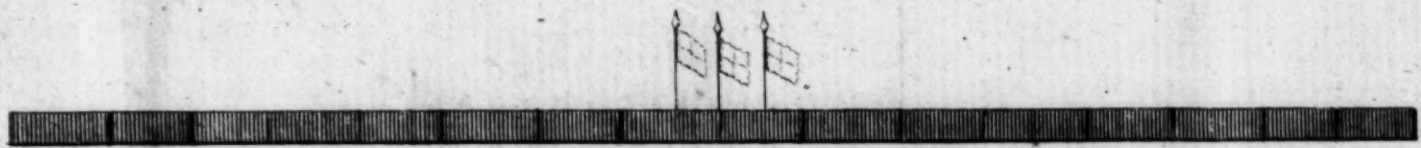


An Amusette.

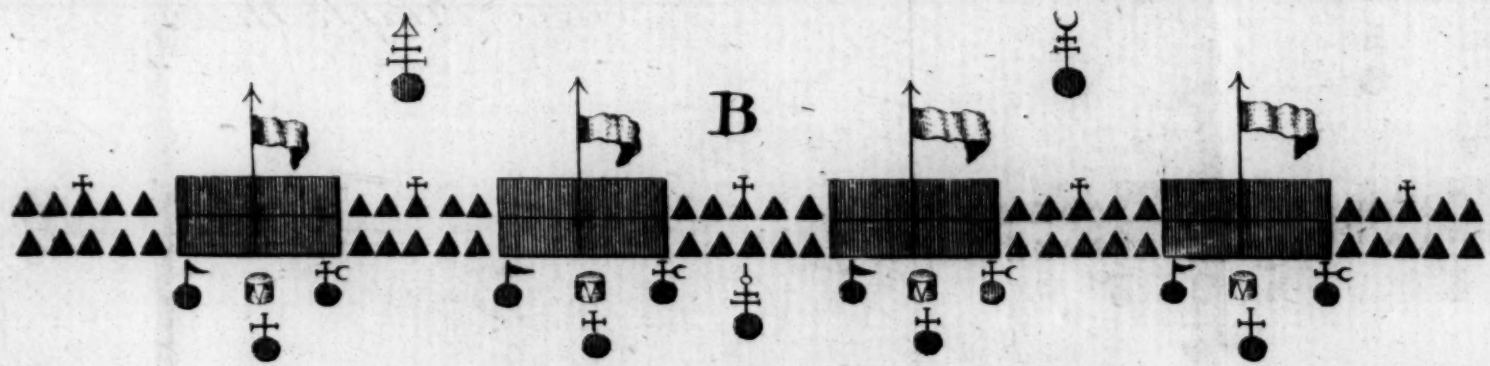


The Legionary Standard.

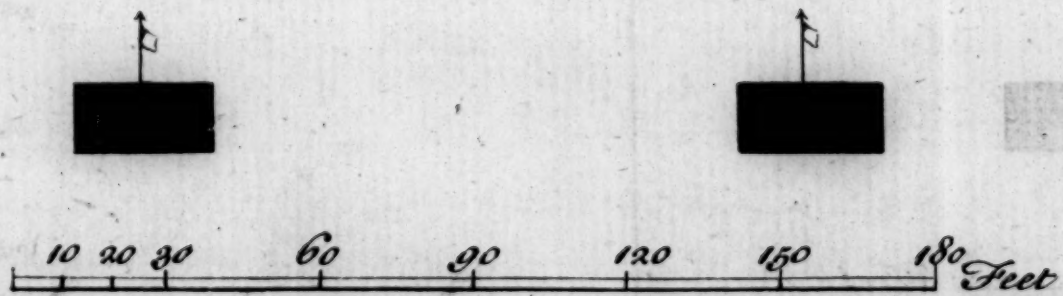
Two Battalions in different dispositions for charging.



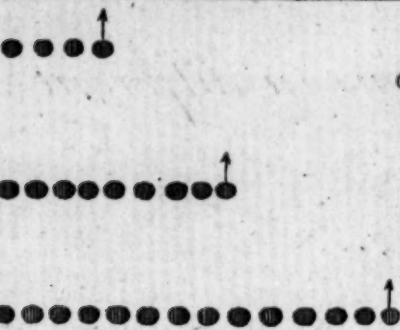
A



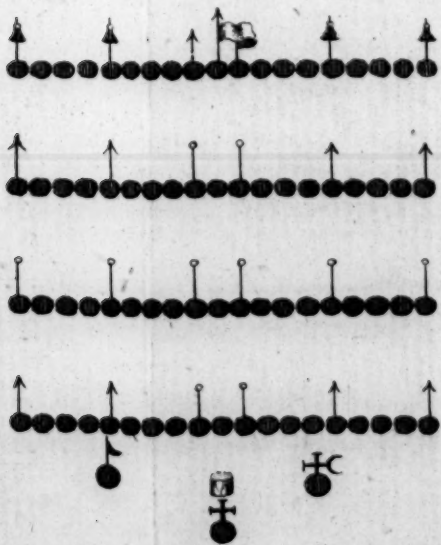
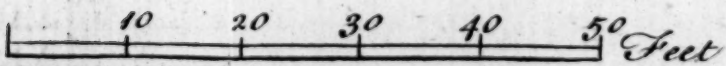
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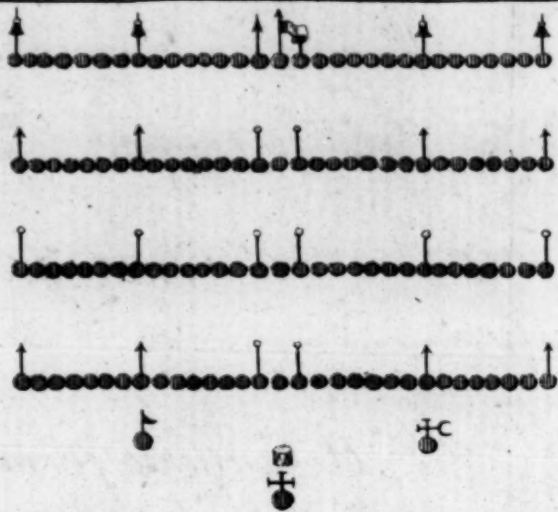


*The Companies according to their
3 different Establishments.*



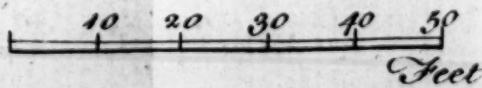
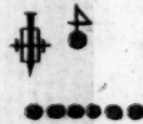
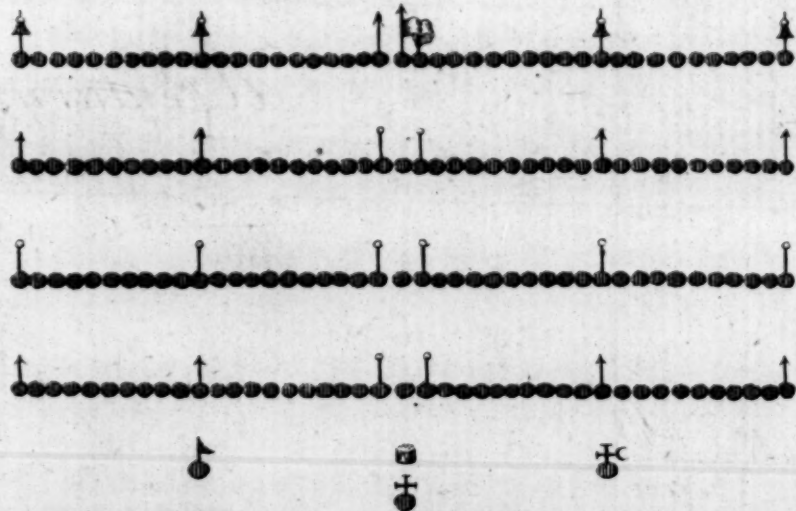
*A Century
according to the establishment in peace.*





A Century, according to the preparatory establishment for War.

A Century, according to the complete establishment in War.



Amusette

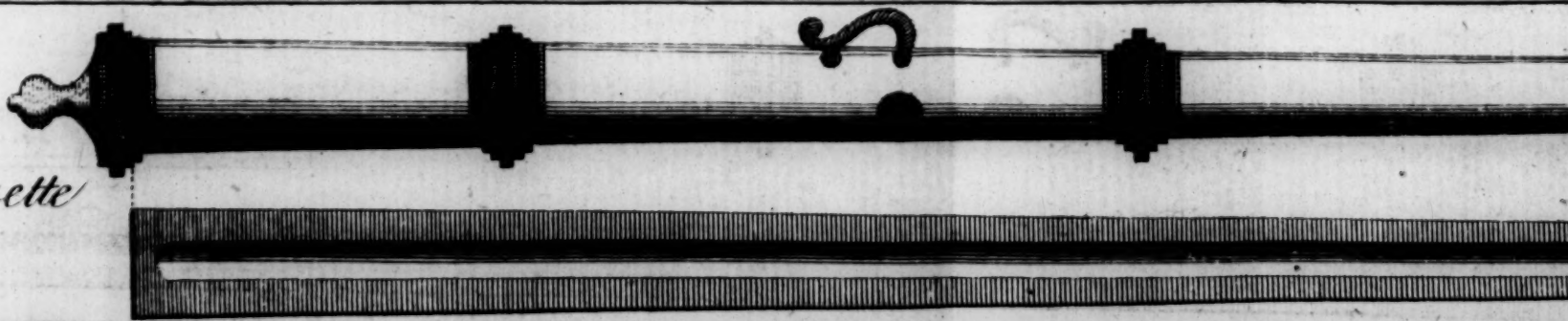
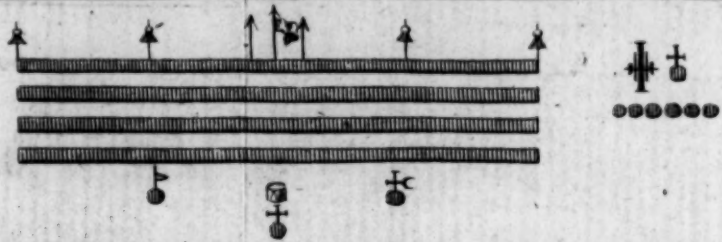
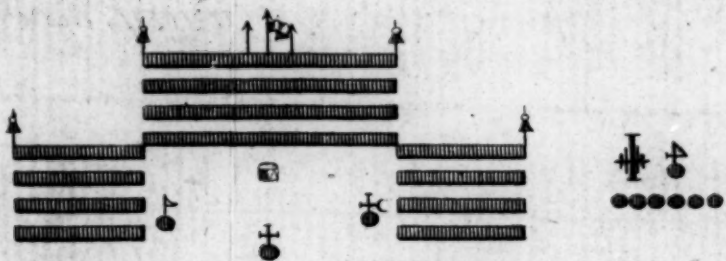


Plate 5.



A Century, in charging order against Cavalry.

A Century, forming in Battalion to charge Infantry.



A Century, formed in Battalion.

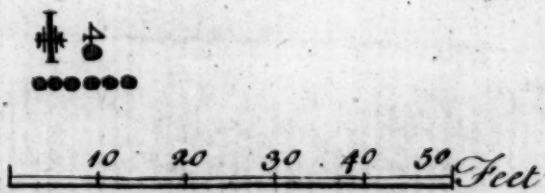
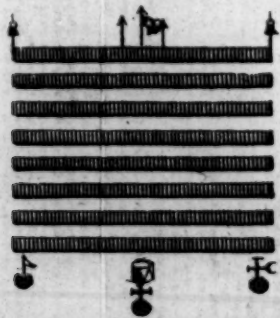
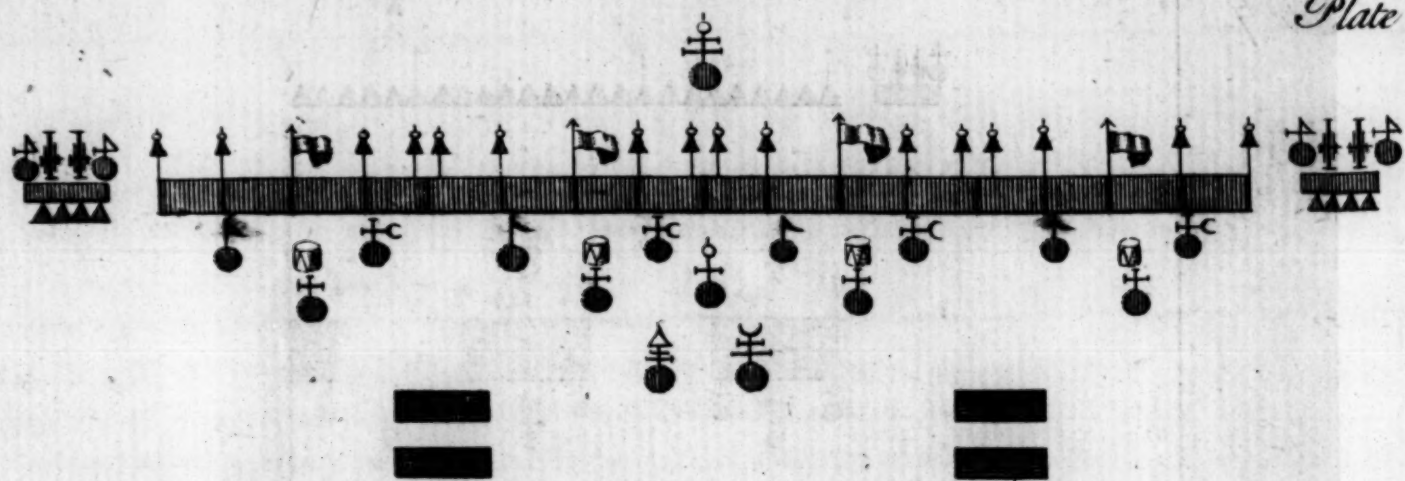


Plate 6.



I.B. 6.

Plate 7.

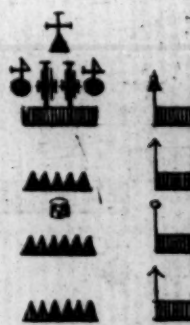
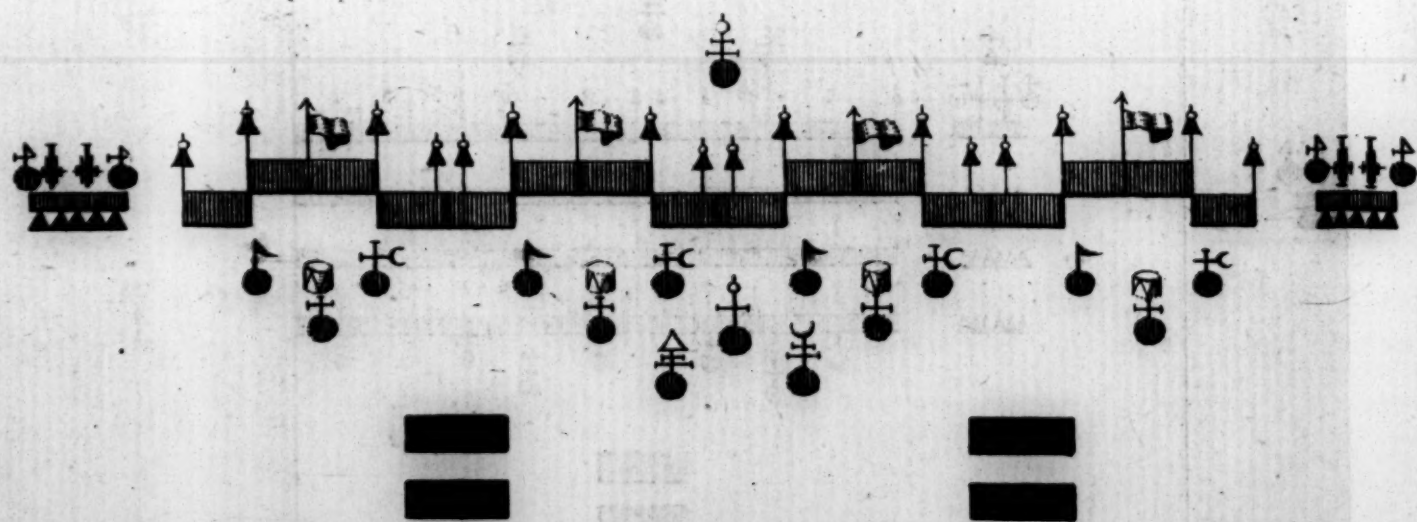


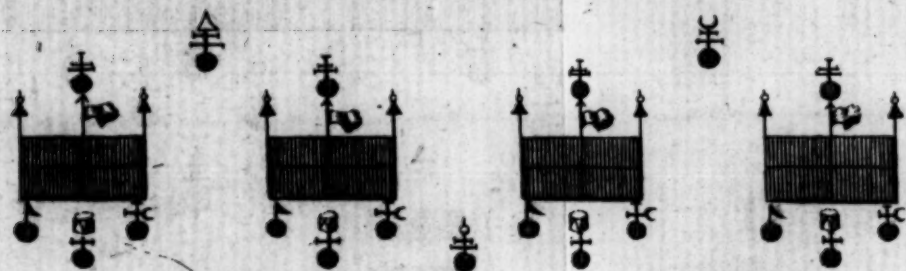
A Regiment in charging order against Cavalry.

A Regiment

A Regiment forming in Battalions to charge Infantry.

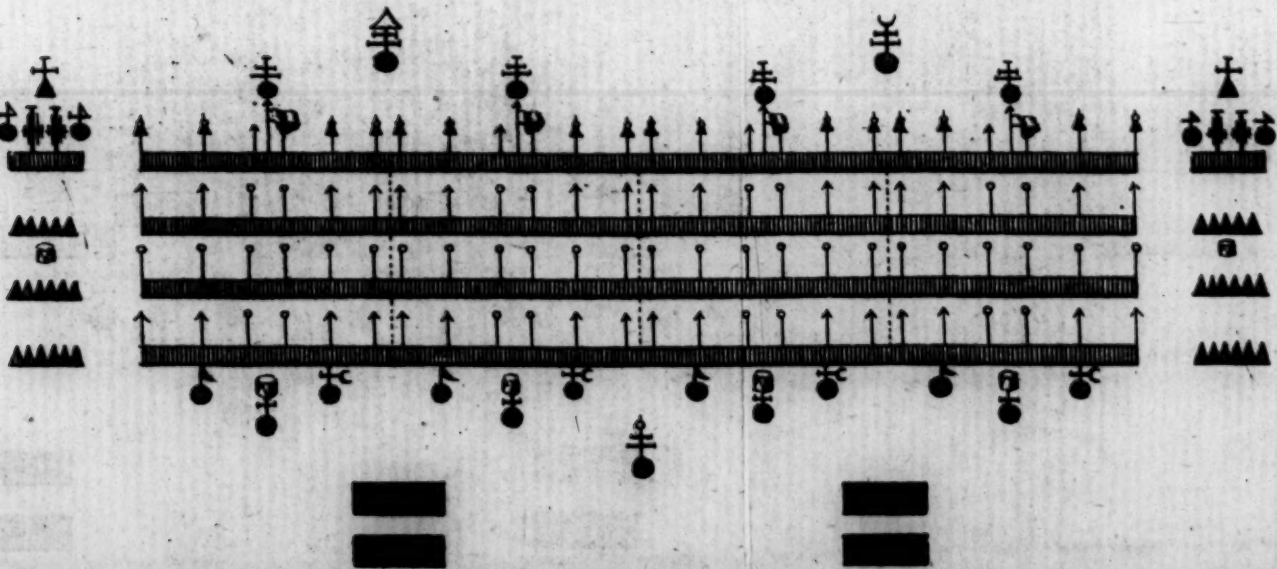
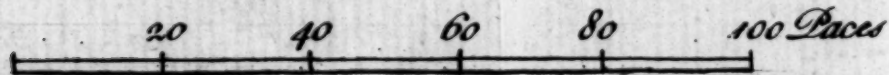
20 40 60 80 100 Paces



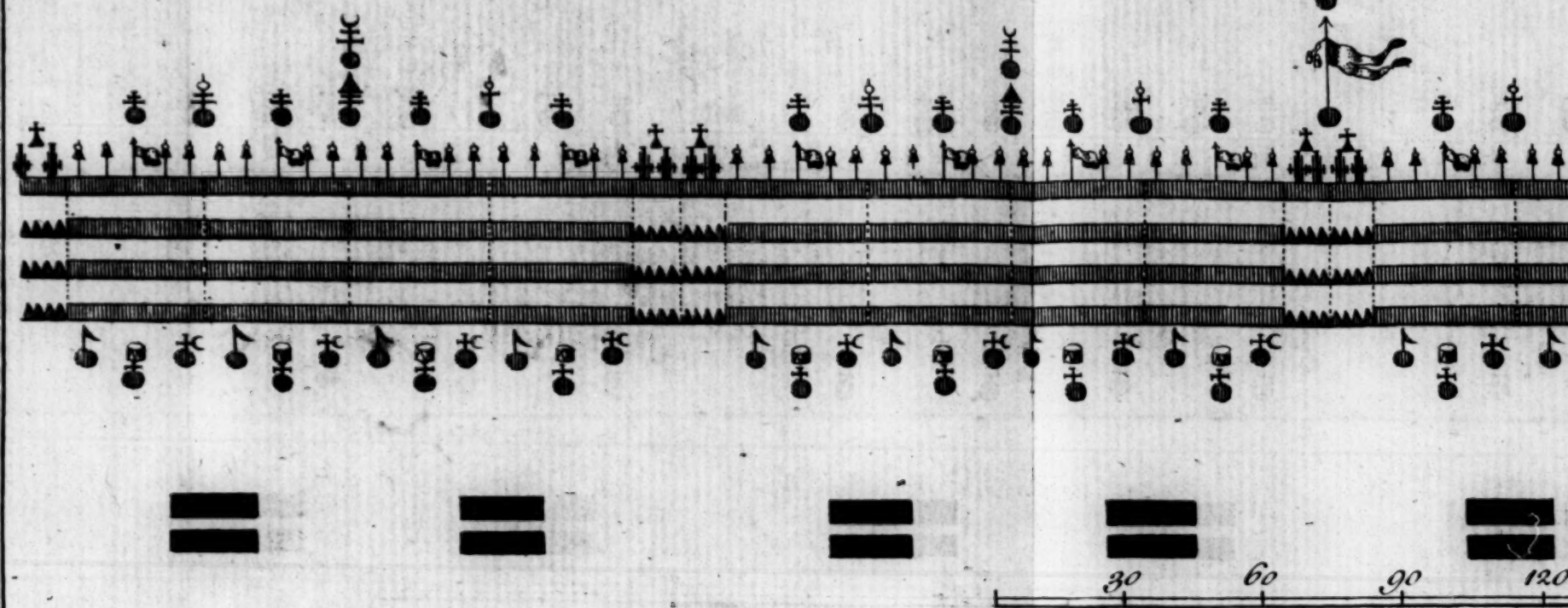


Regiment formed in Battalions, with its light-armed Foot in Front.

A Regiment on Parade.



A Legion on Parade.



A Legion formed in charging order

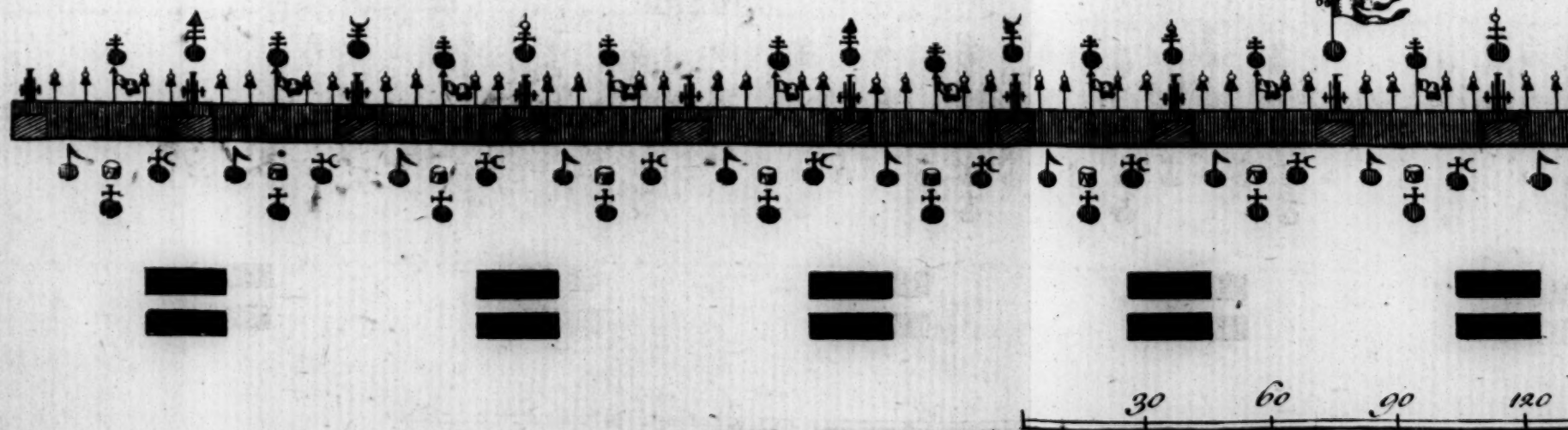
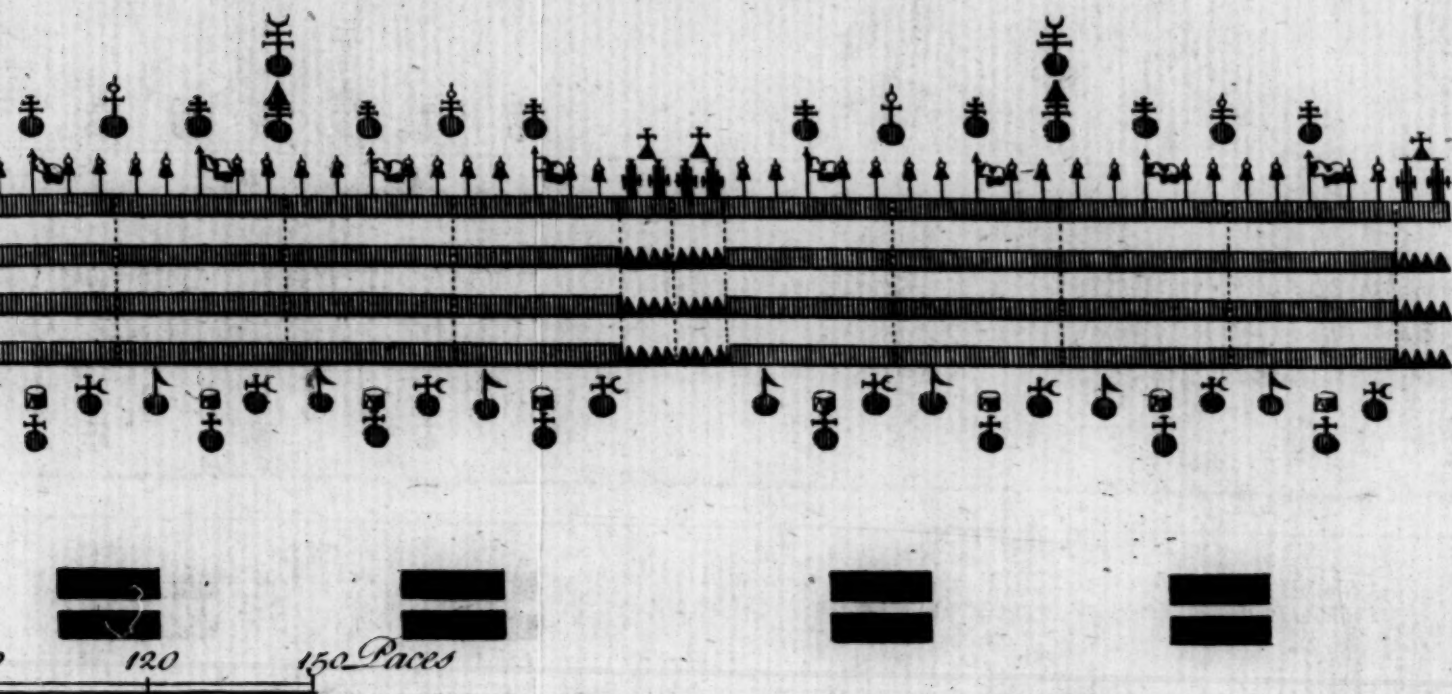
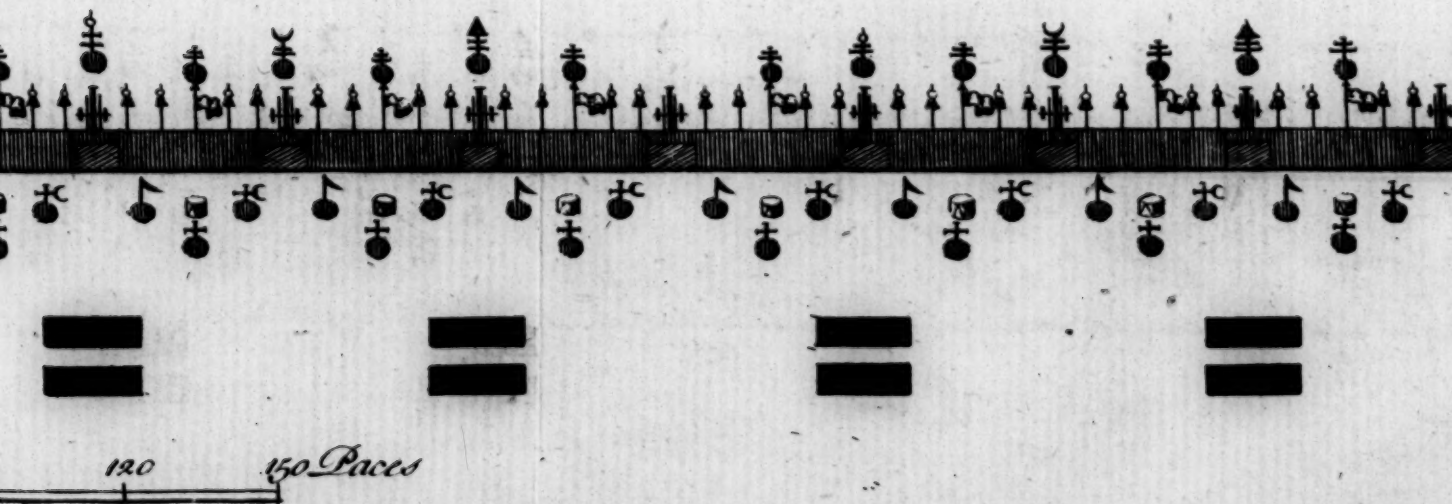


Plate 9.

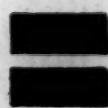
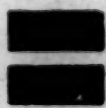
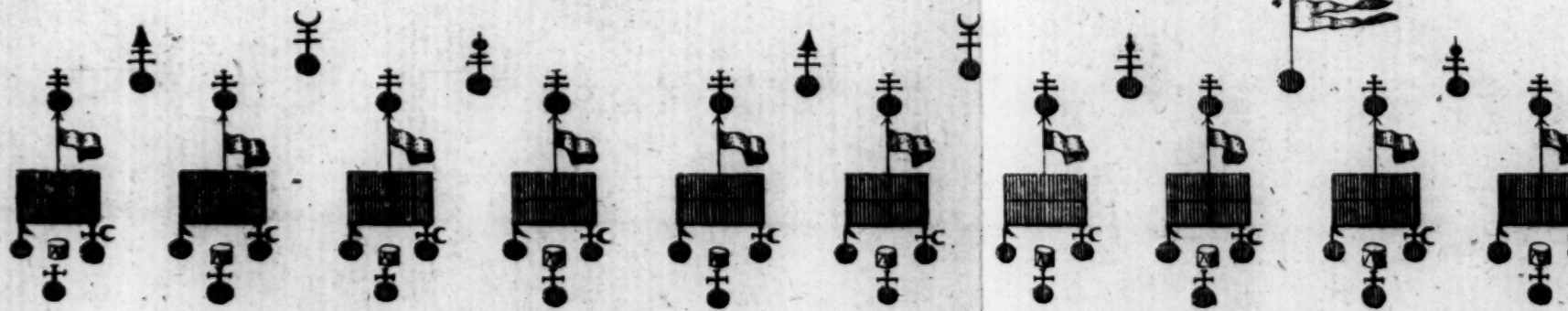


order against Cavalry.

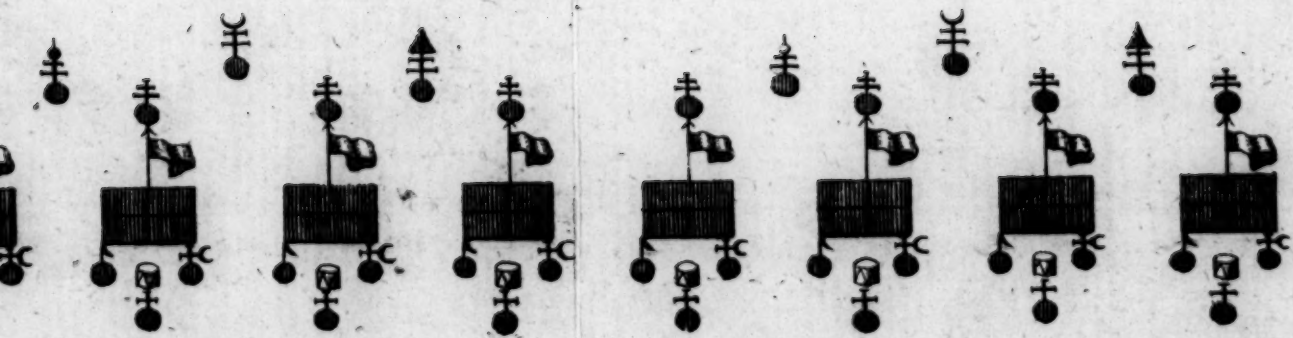
Plate 10.



A Legion with its light-armed Foot in front, and formed



Formed in charging order against Infantry.



60 80 100 Toises.

1871

1872

1873

1874

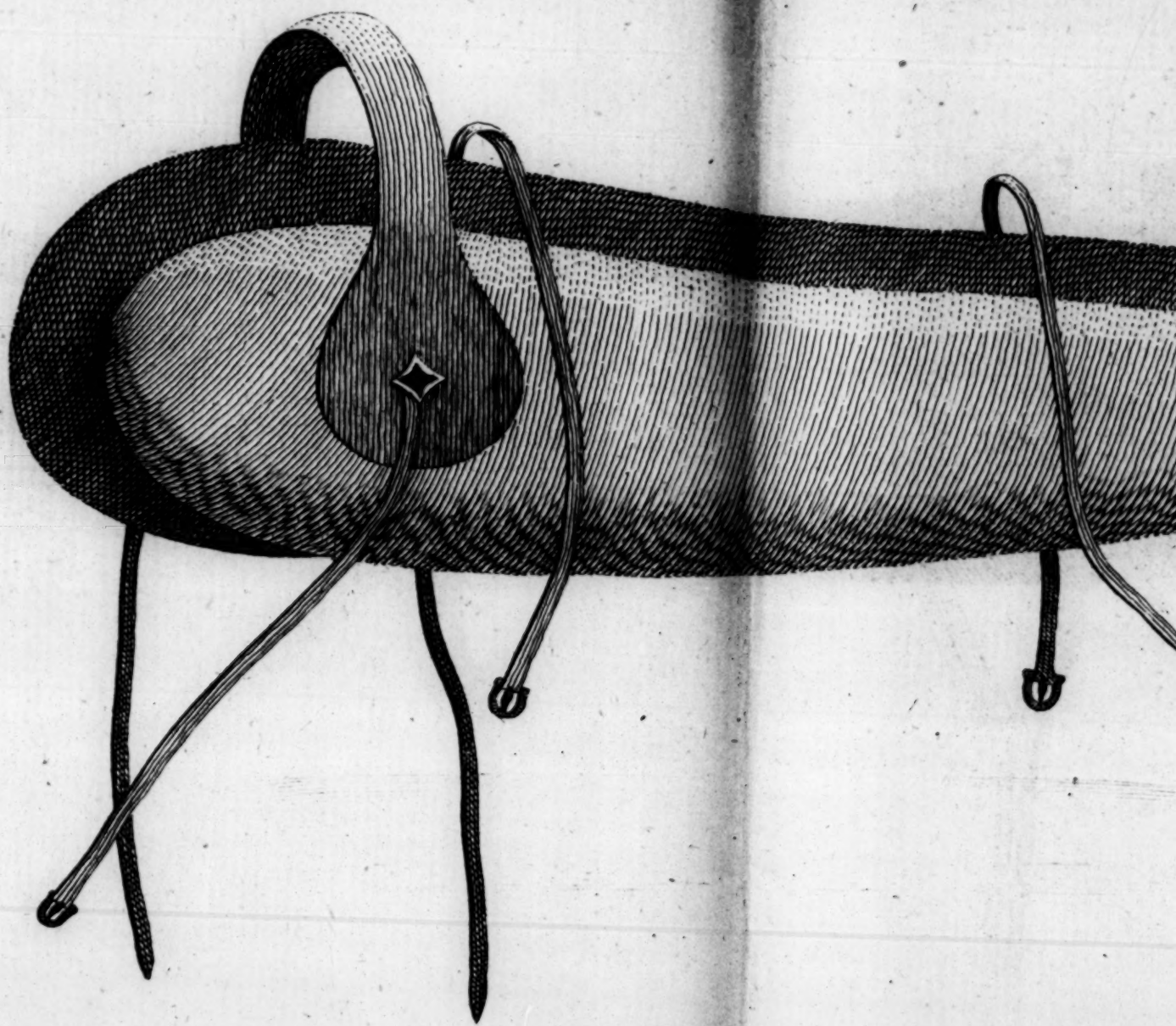
1875

A Trooper returning from foraging.

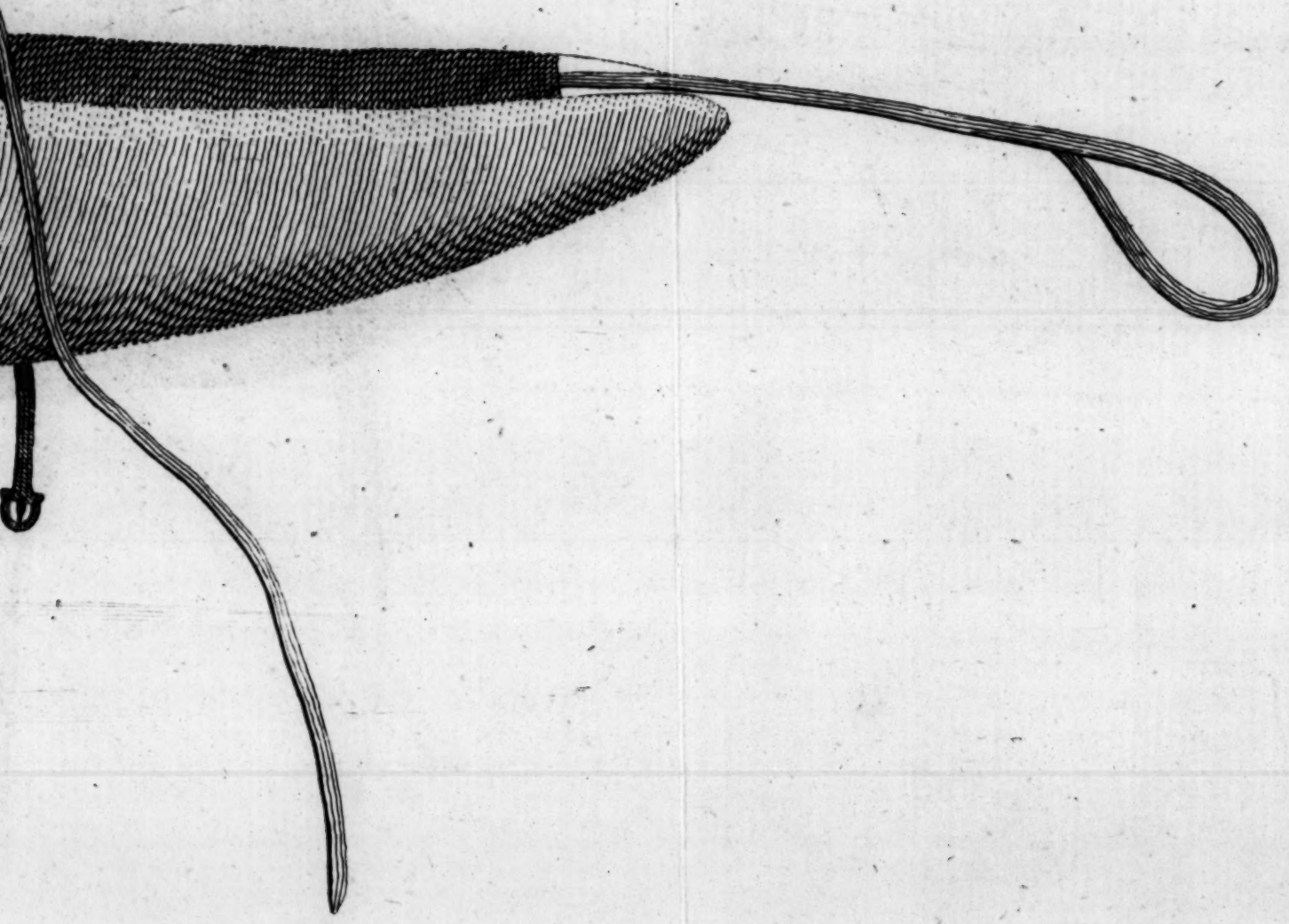


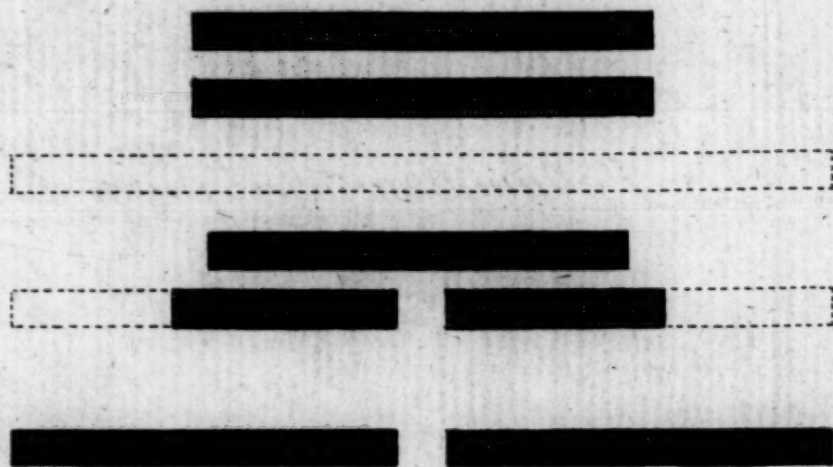
1878

A Saddle, or Pair of Pans

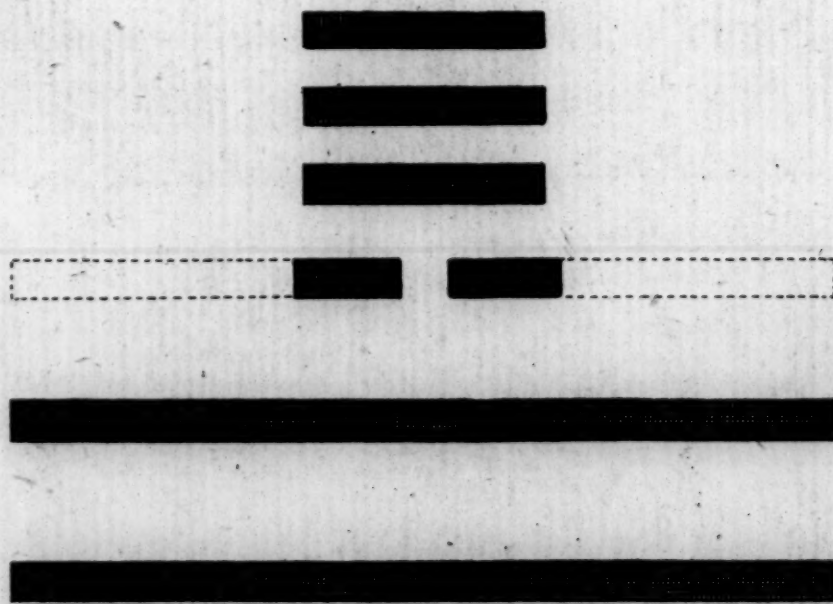


f Pannels.



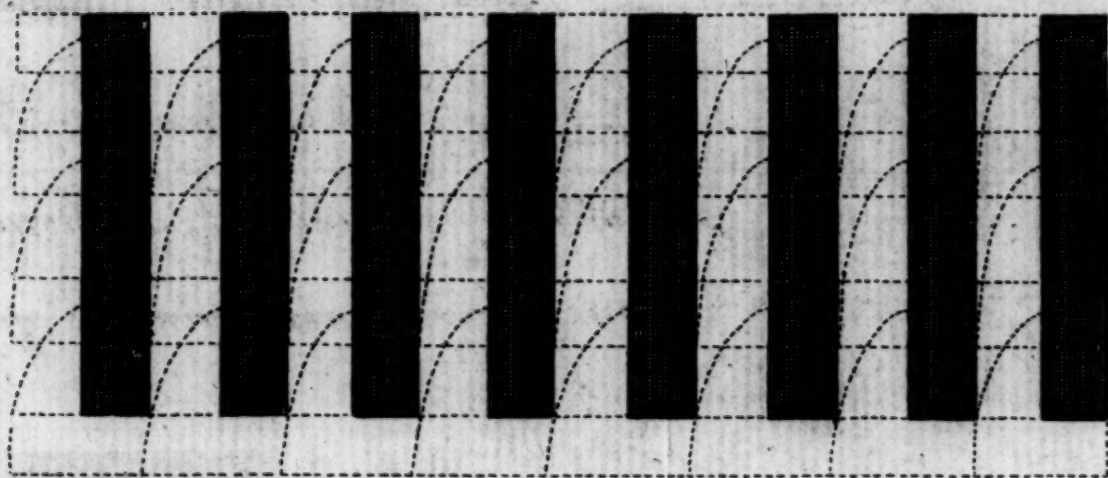


Two Squadrons, representing the March by the Center, and the Method of ranking off, or diminishing their Front, in proportion to the narrowness of their Ground.



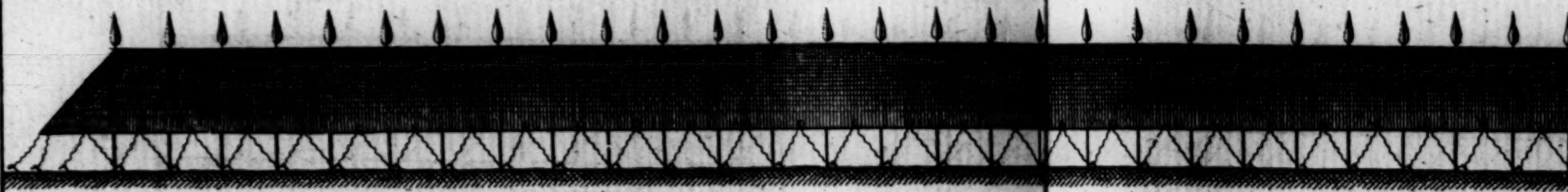
A Squad

A Squadron wheeling to the right by half-quarter Ranks.

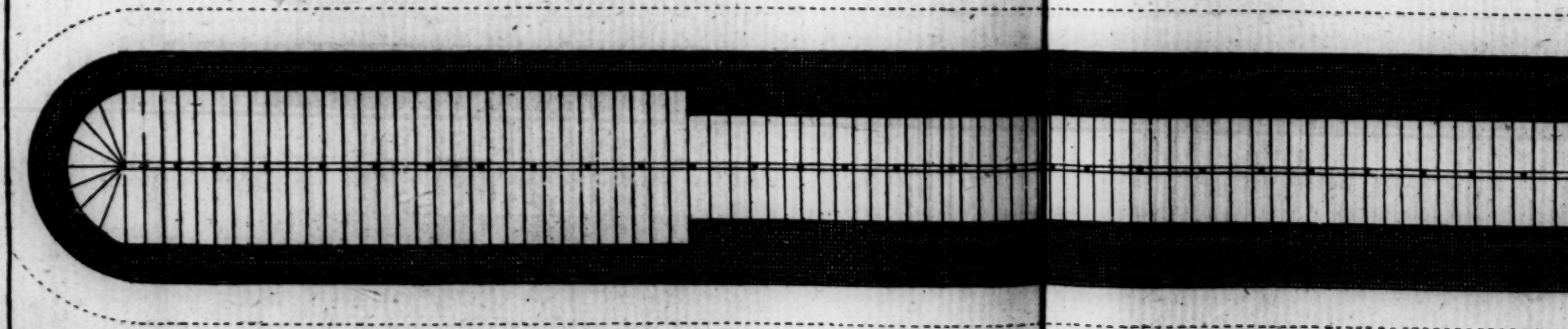


The Plan and Profile of a Tent for the encampment of a Squadron

Profile.



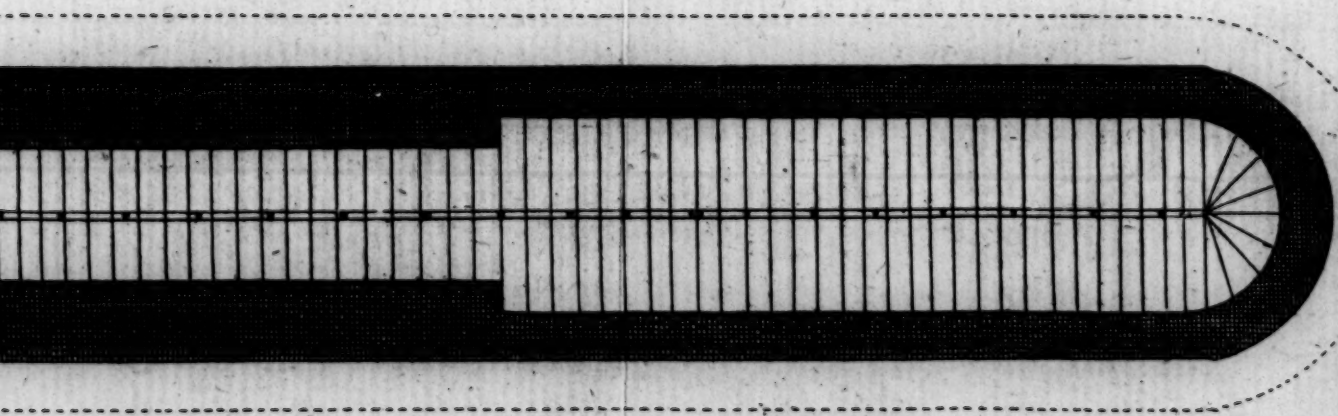
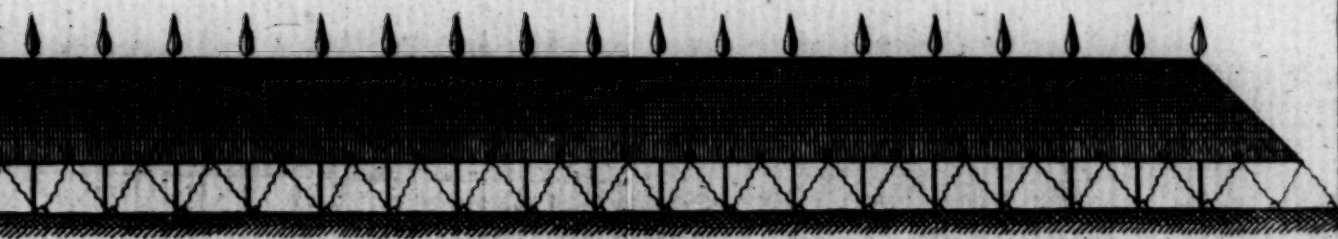
Plan.



5 10 Toises

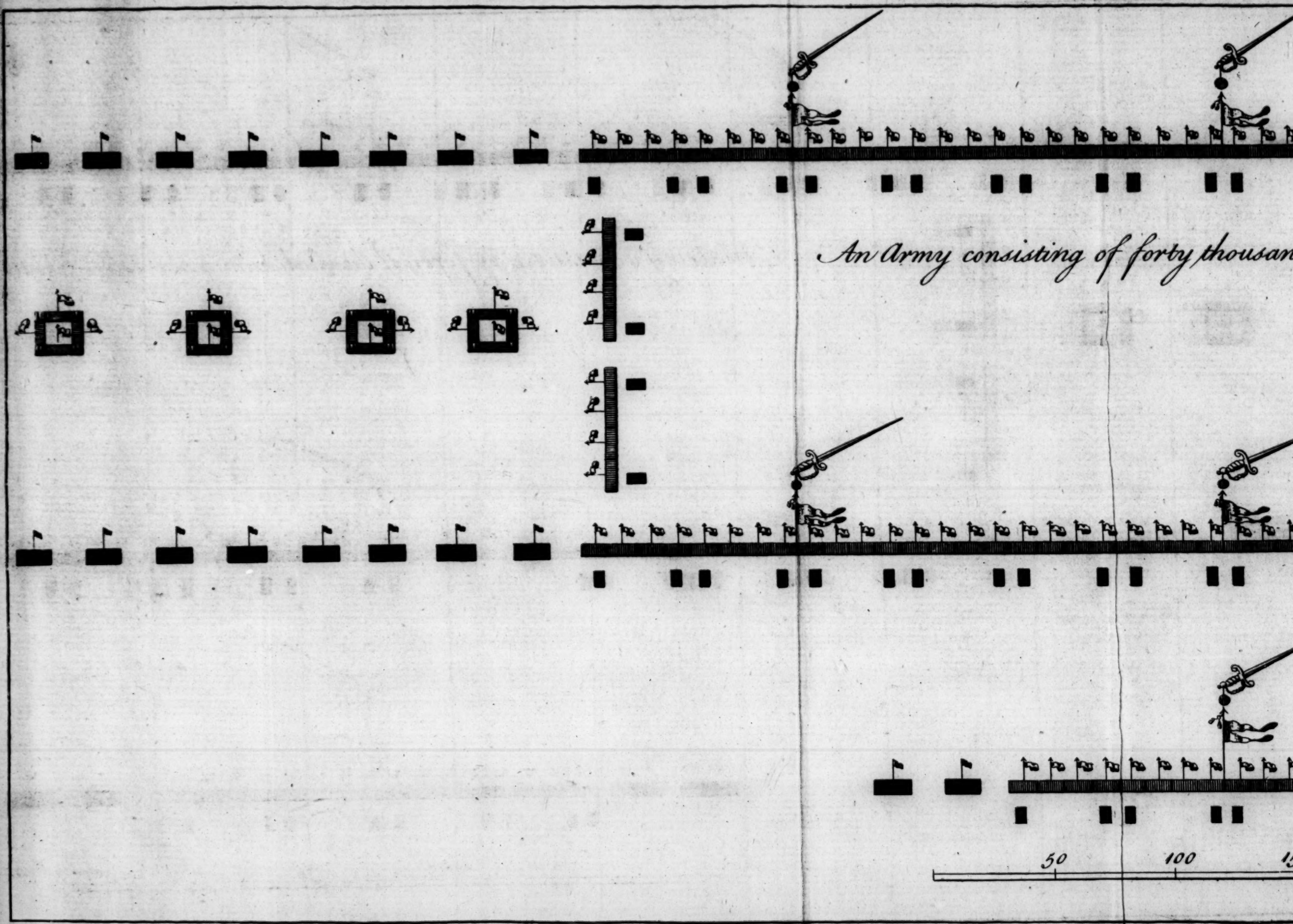
Plate 16.

adron of Cavalry, men and horses included.



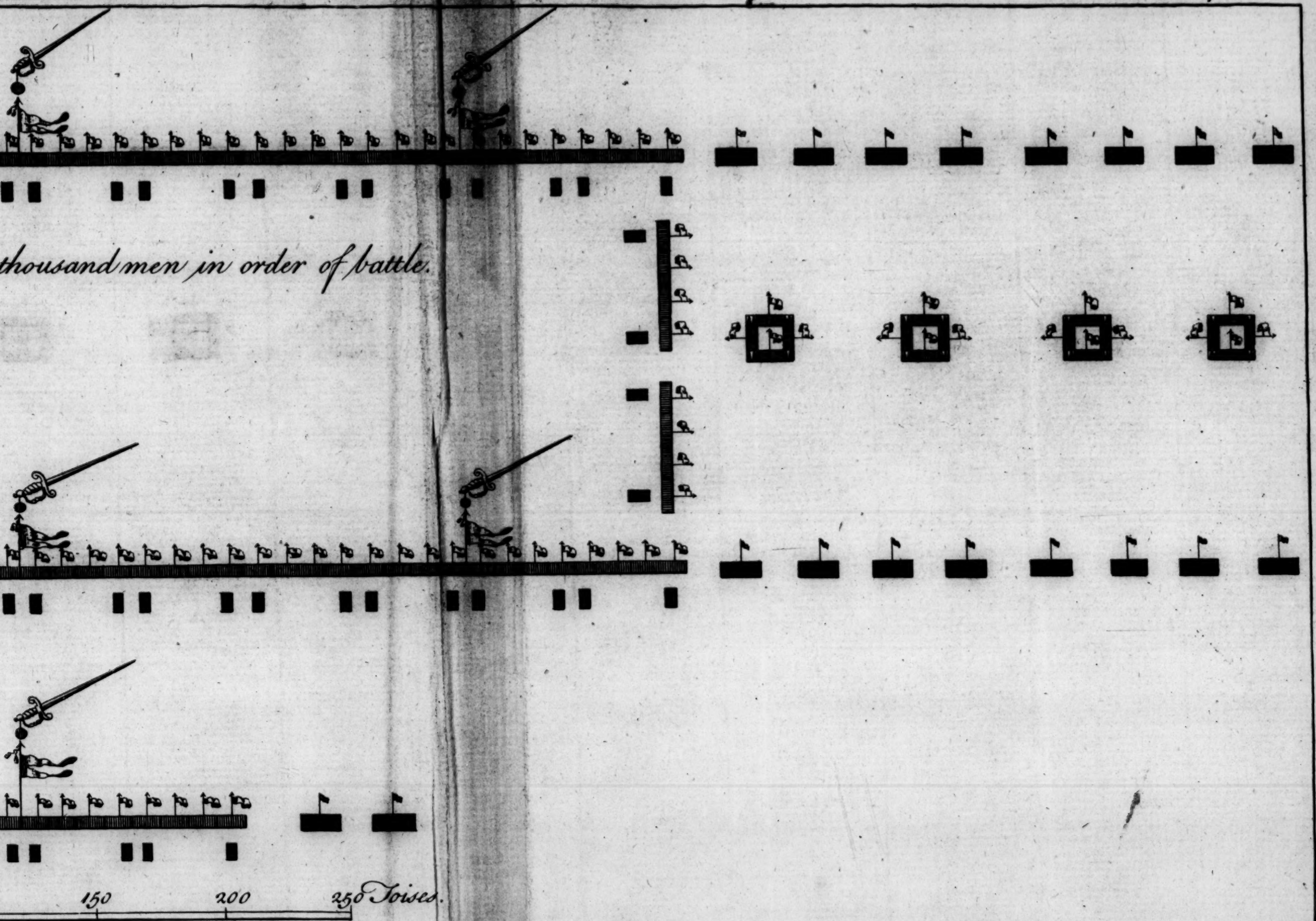
10 Toises.

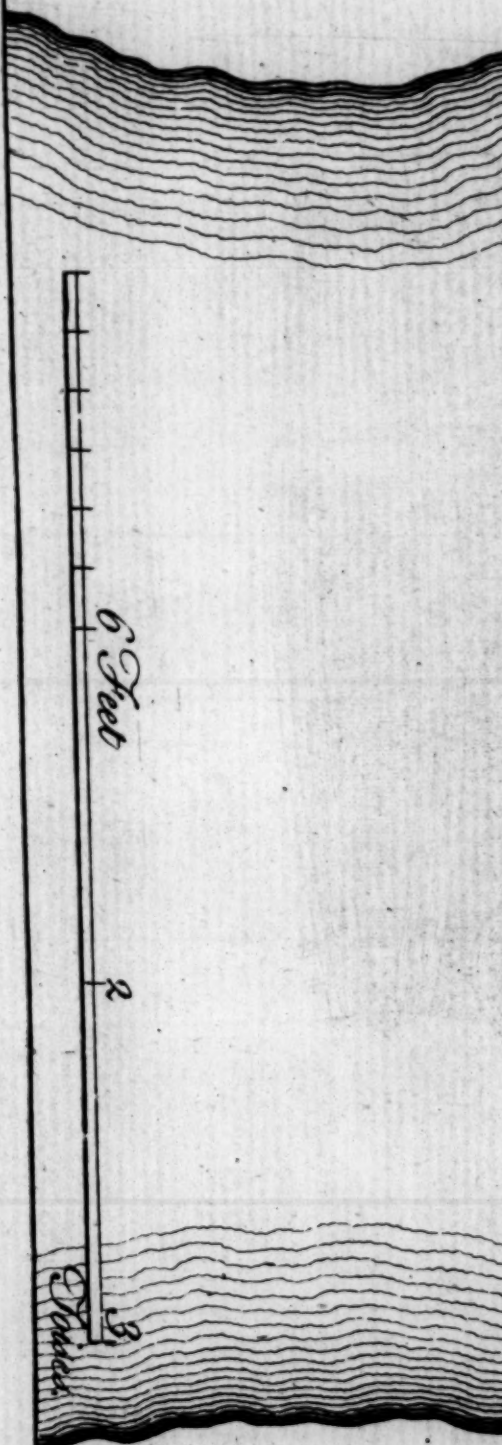
I. B. Jc.



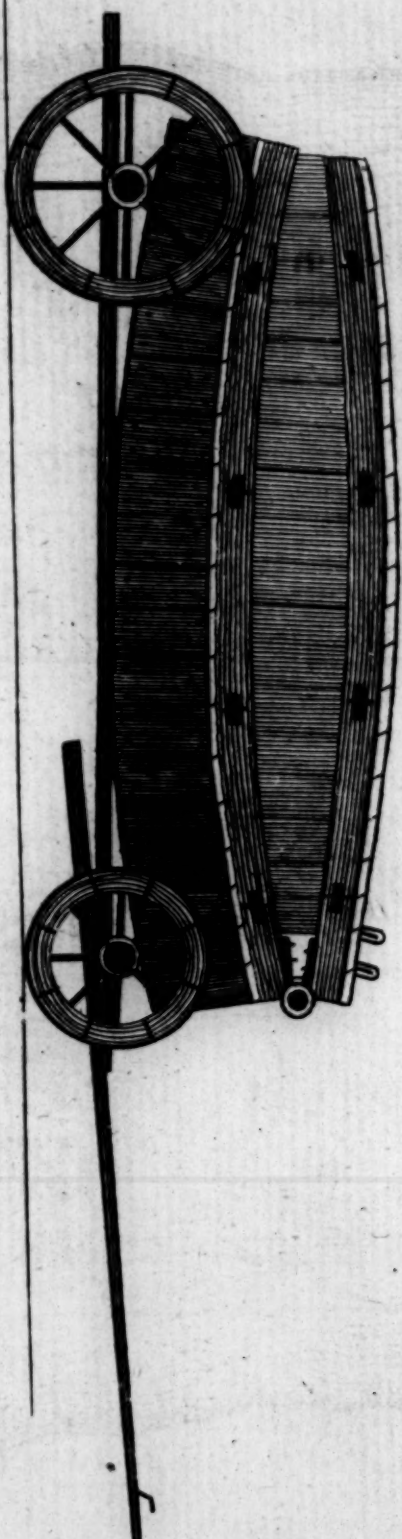
An Army consisting of forty thousand

50 100 150





A Bridge.



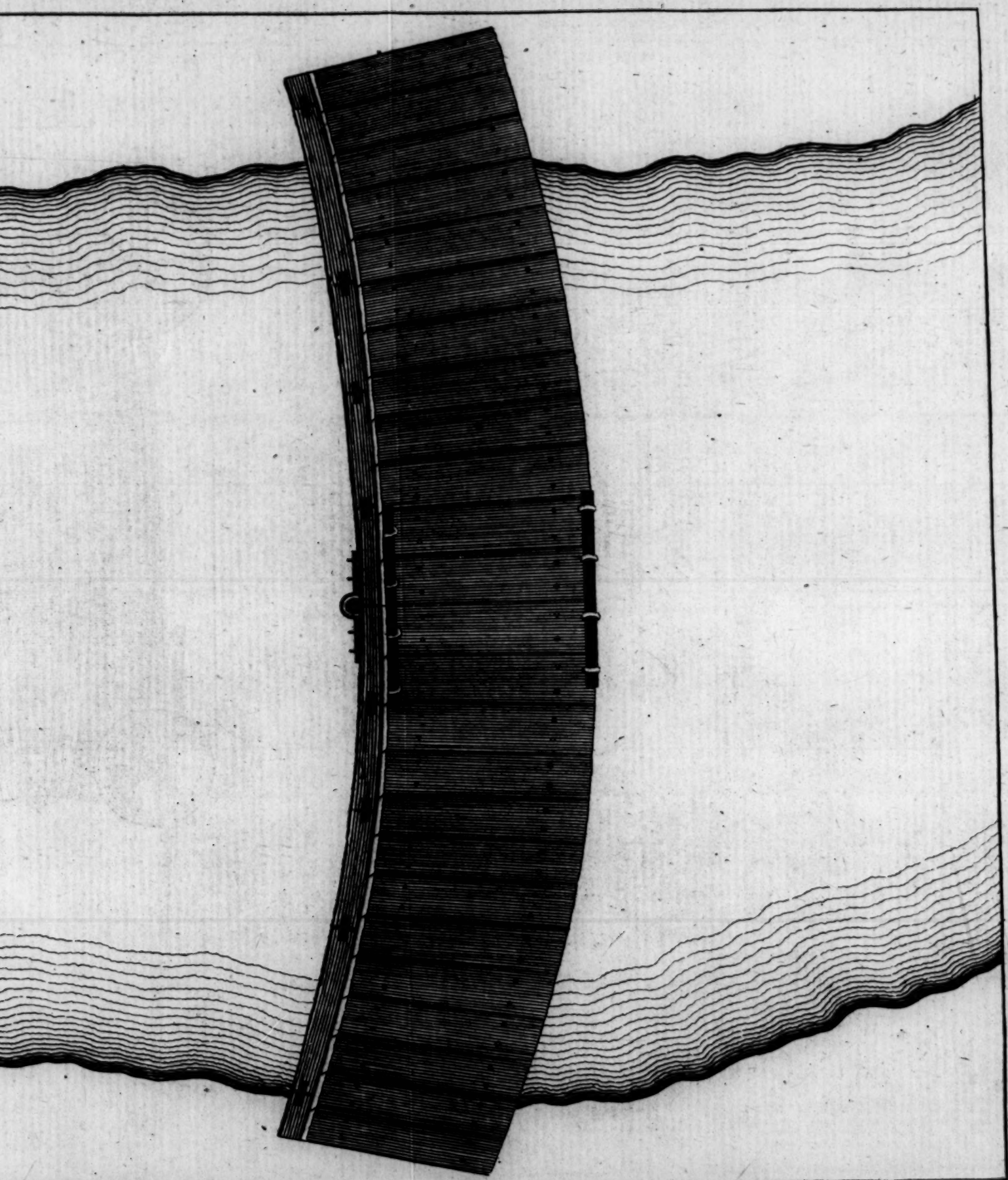
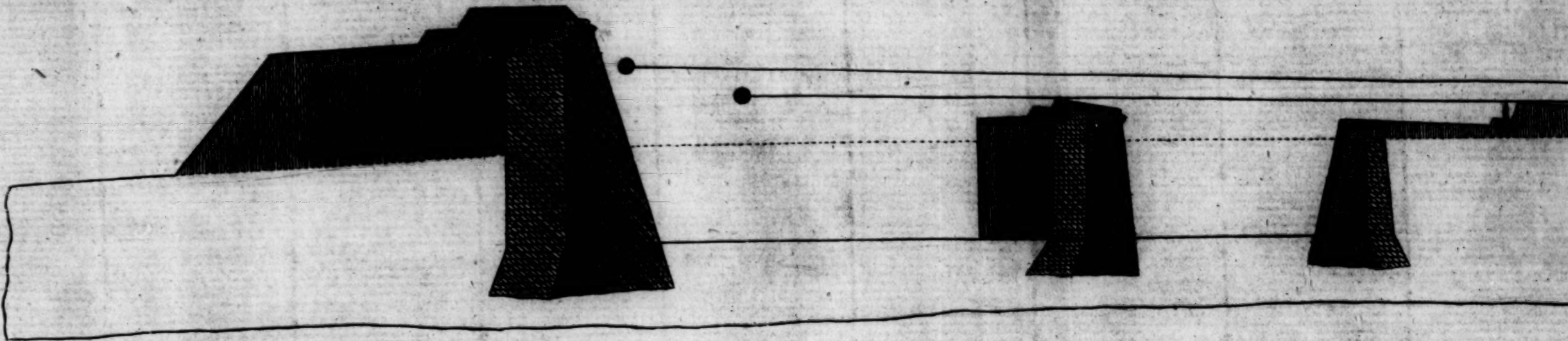


Plate 18.

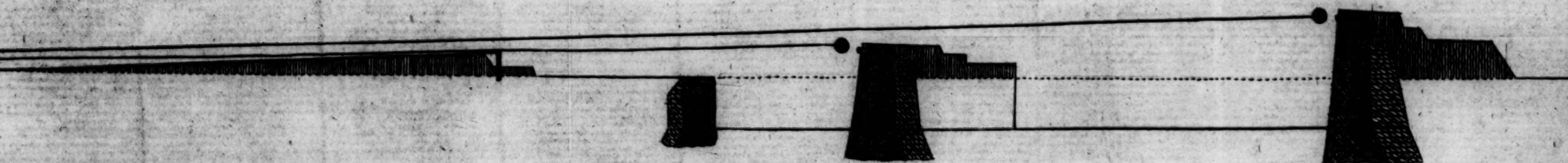
1 2 3 6



5 10 15

6

12 Toises.



10 15

30 Toises.

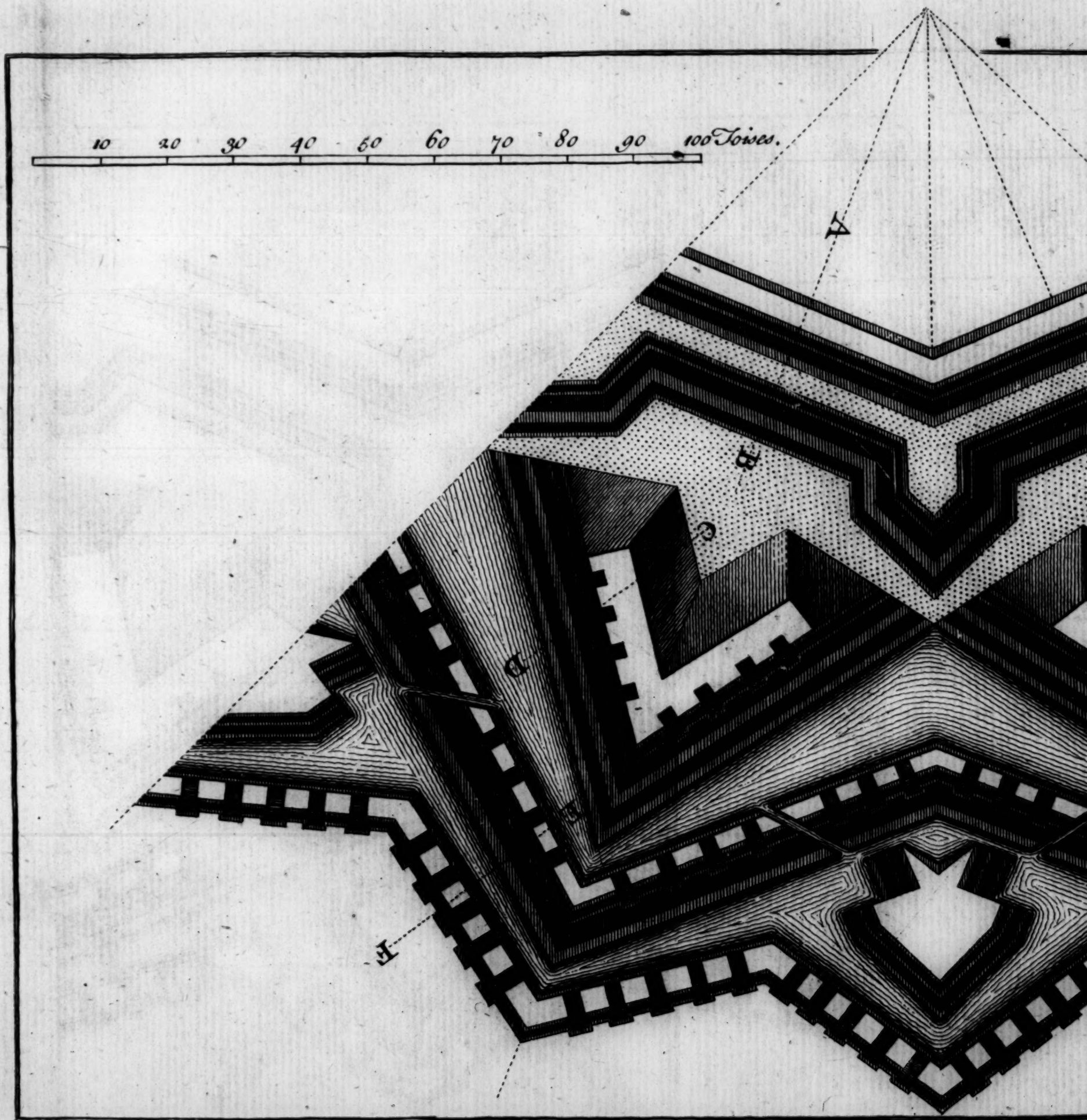
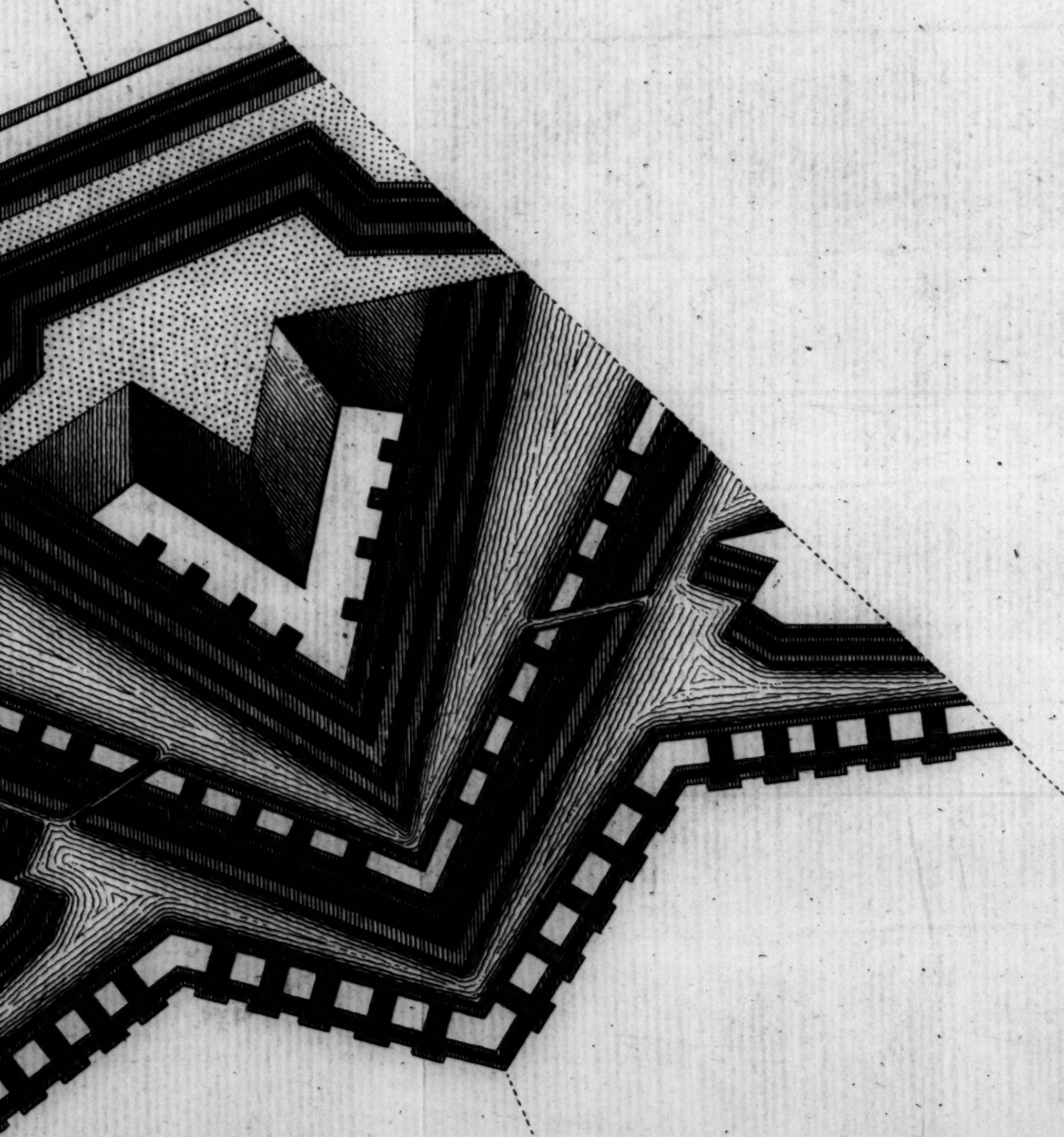


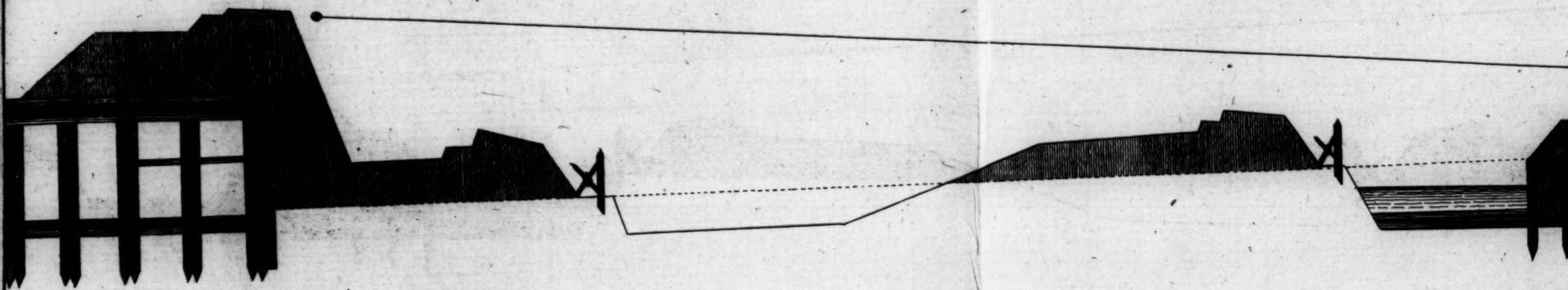
Plate 20.

See profile in Plate 21.



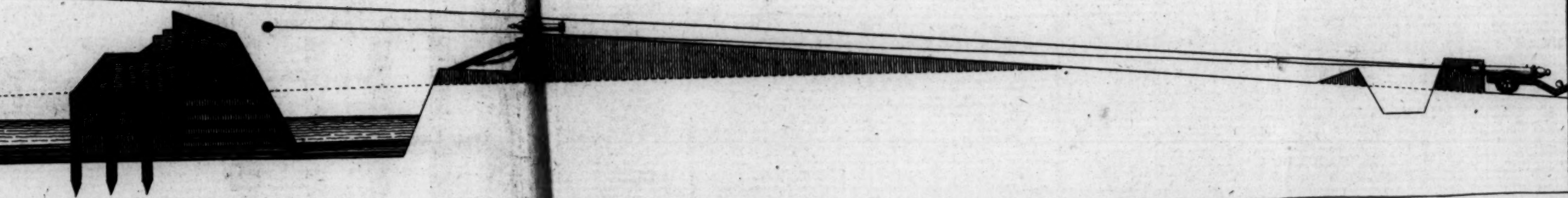
T.B. j8.

Profile taken upon the lines A.B

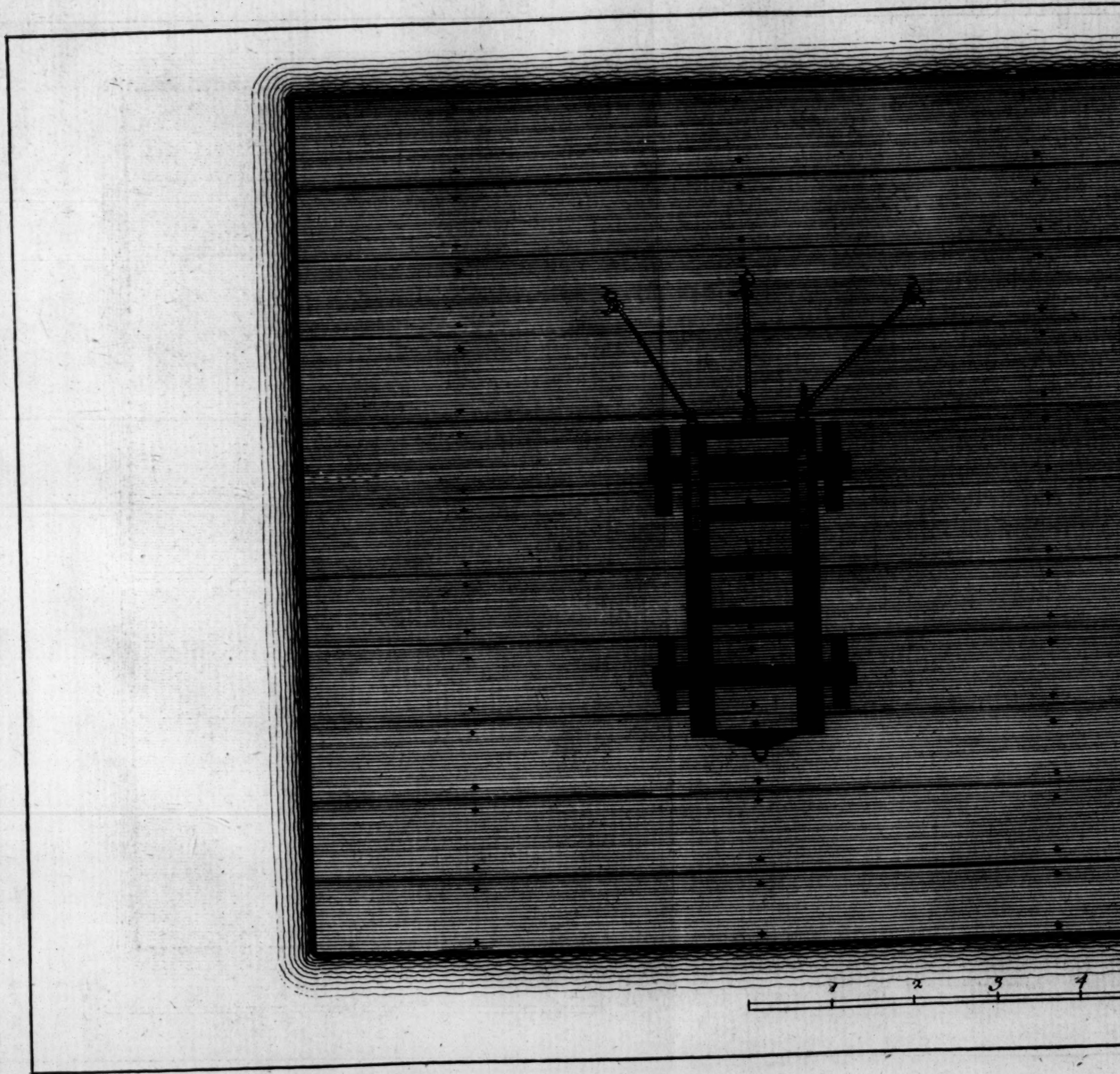


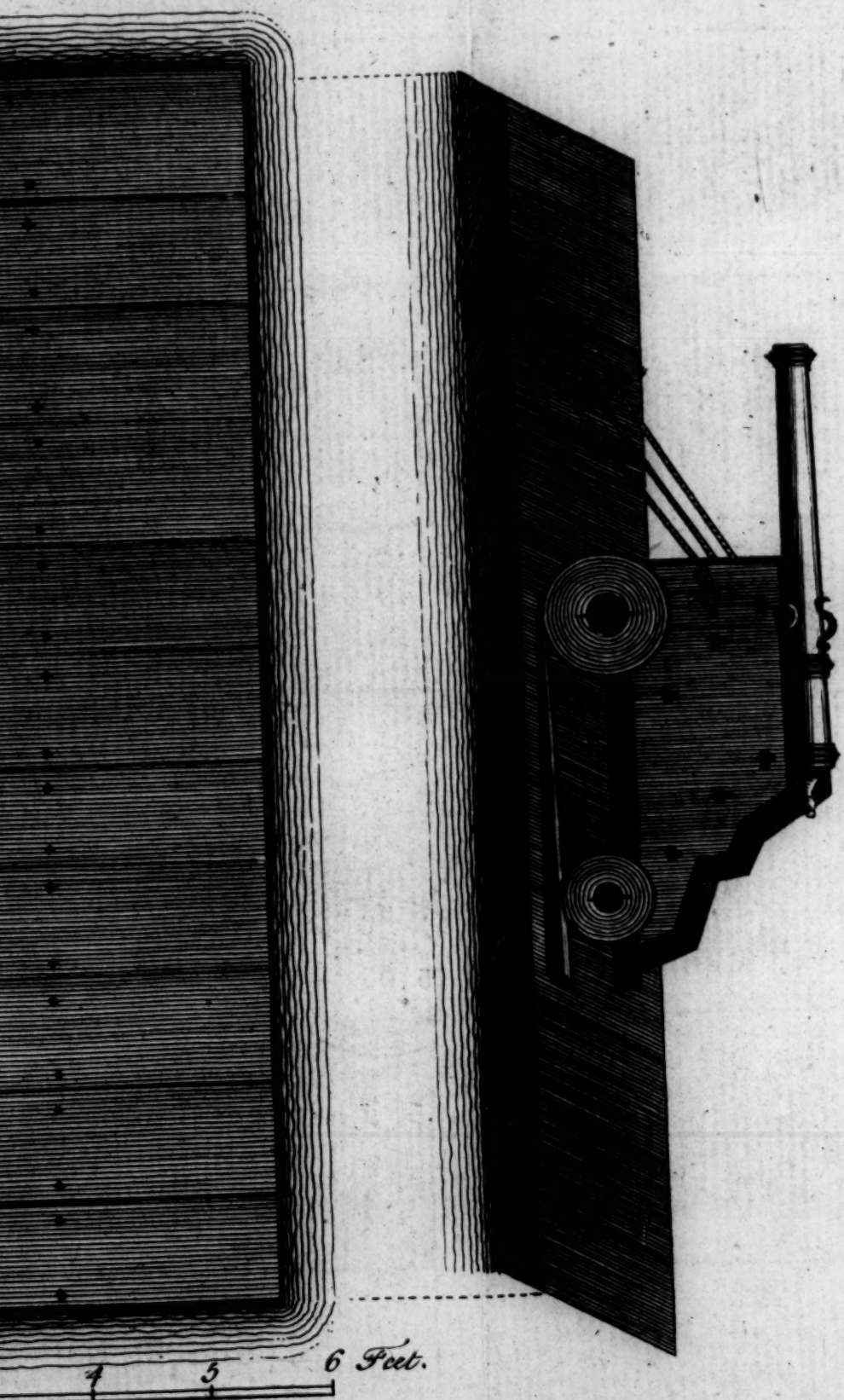
1 2 3 4 5

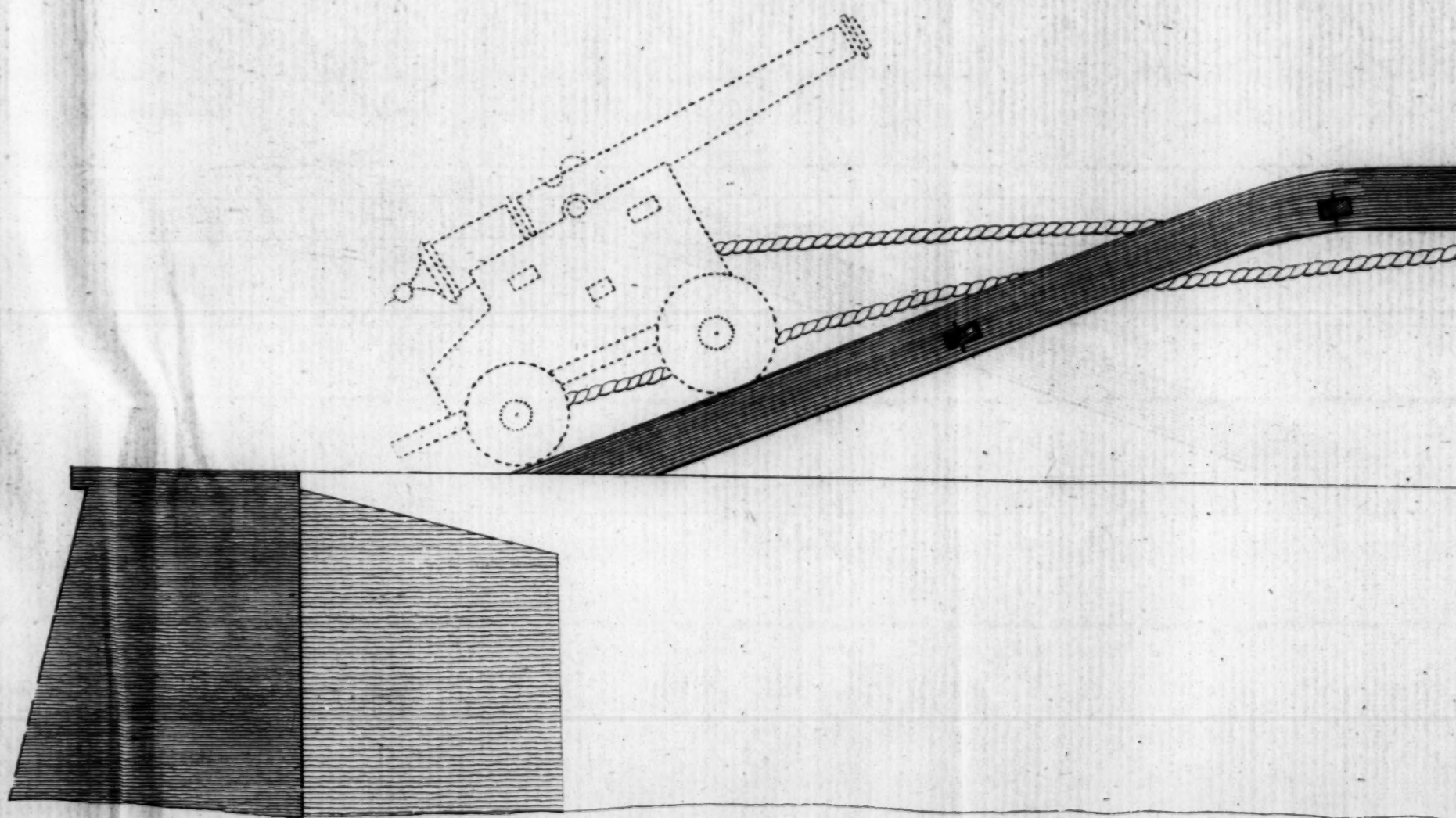
es A.B.C.D.E.F. of y^e preceding Plan.

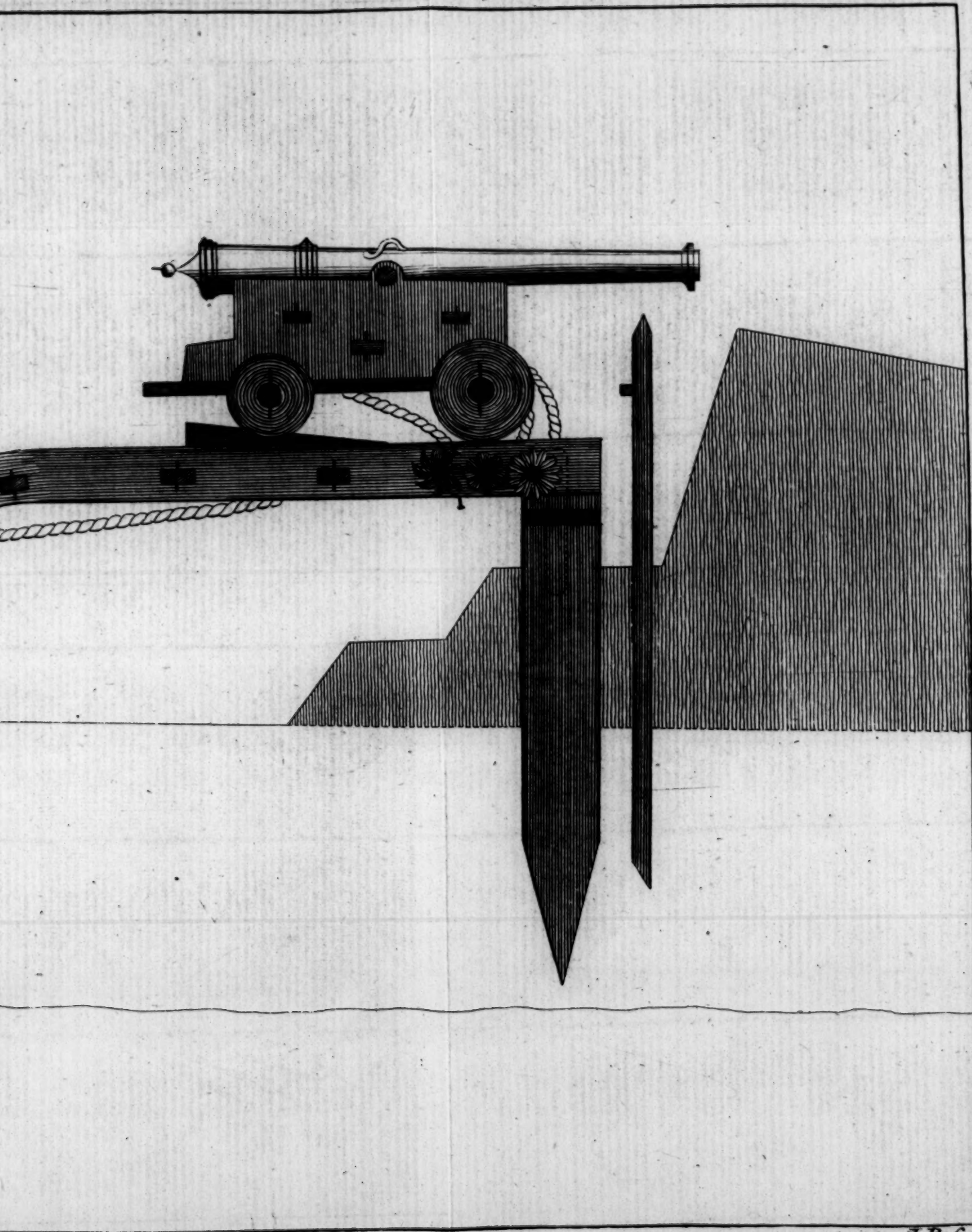


45 10 20 Toises.









See the profile in Plate 25.

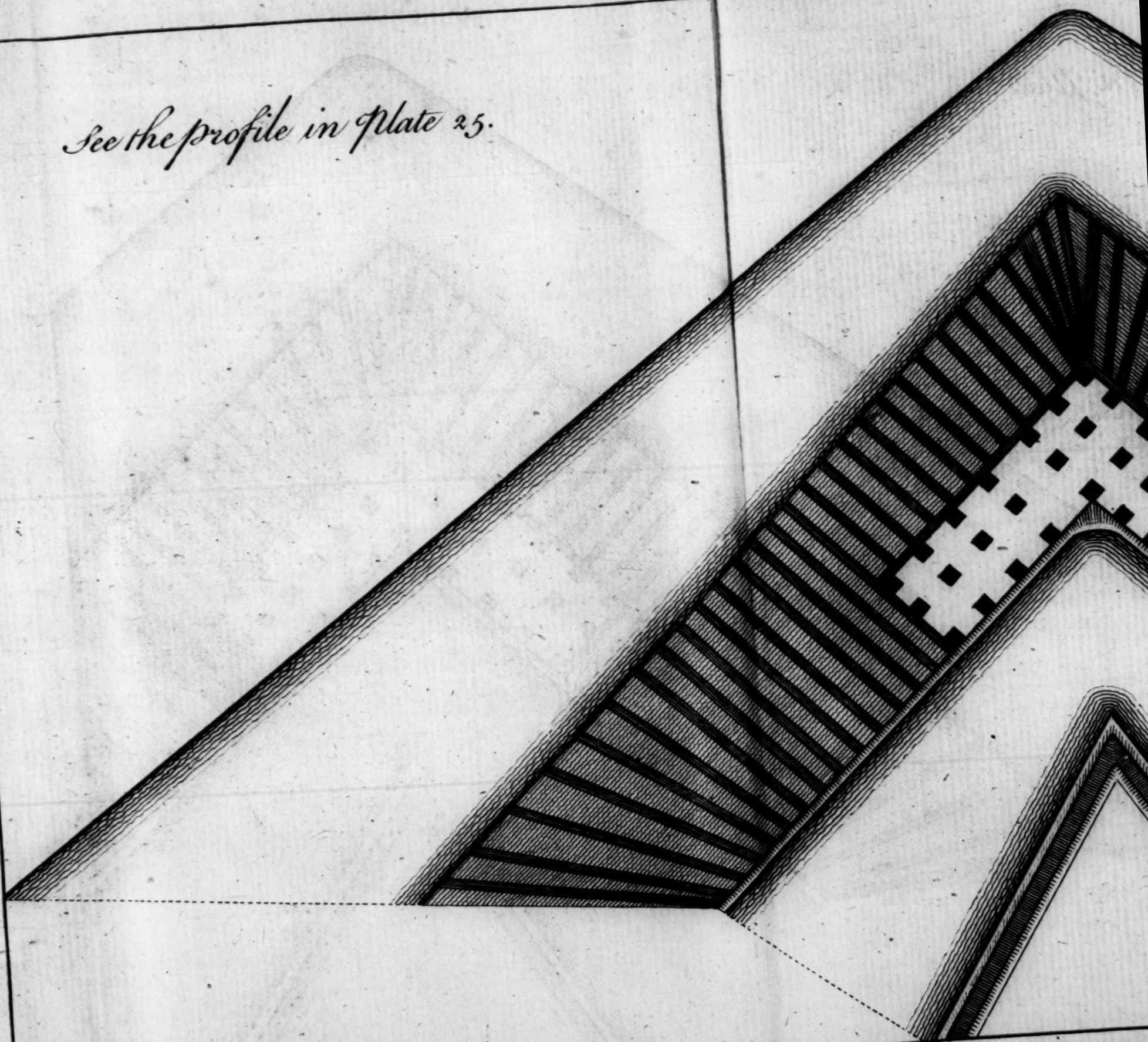
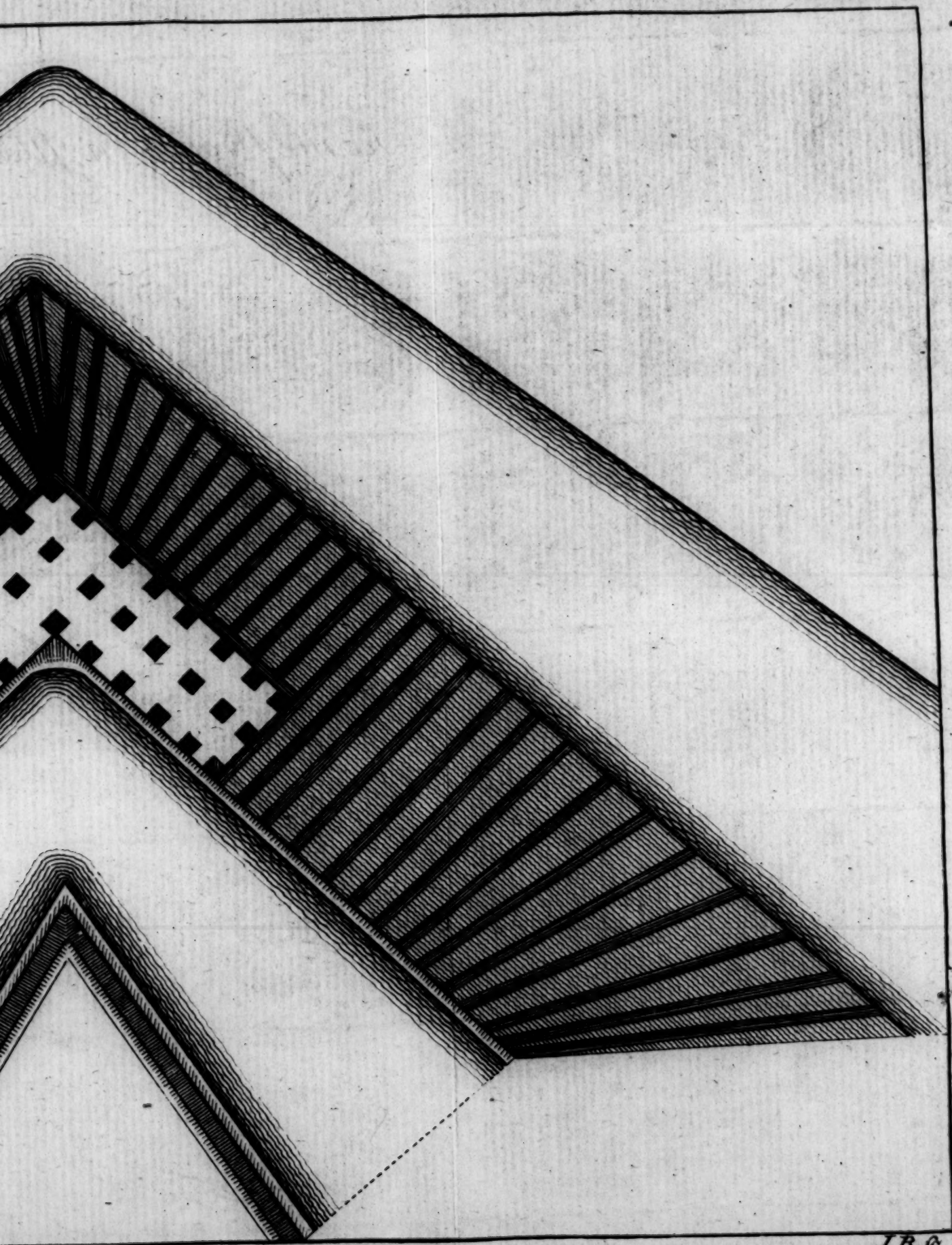
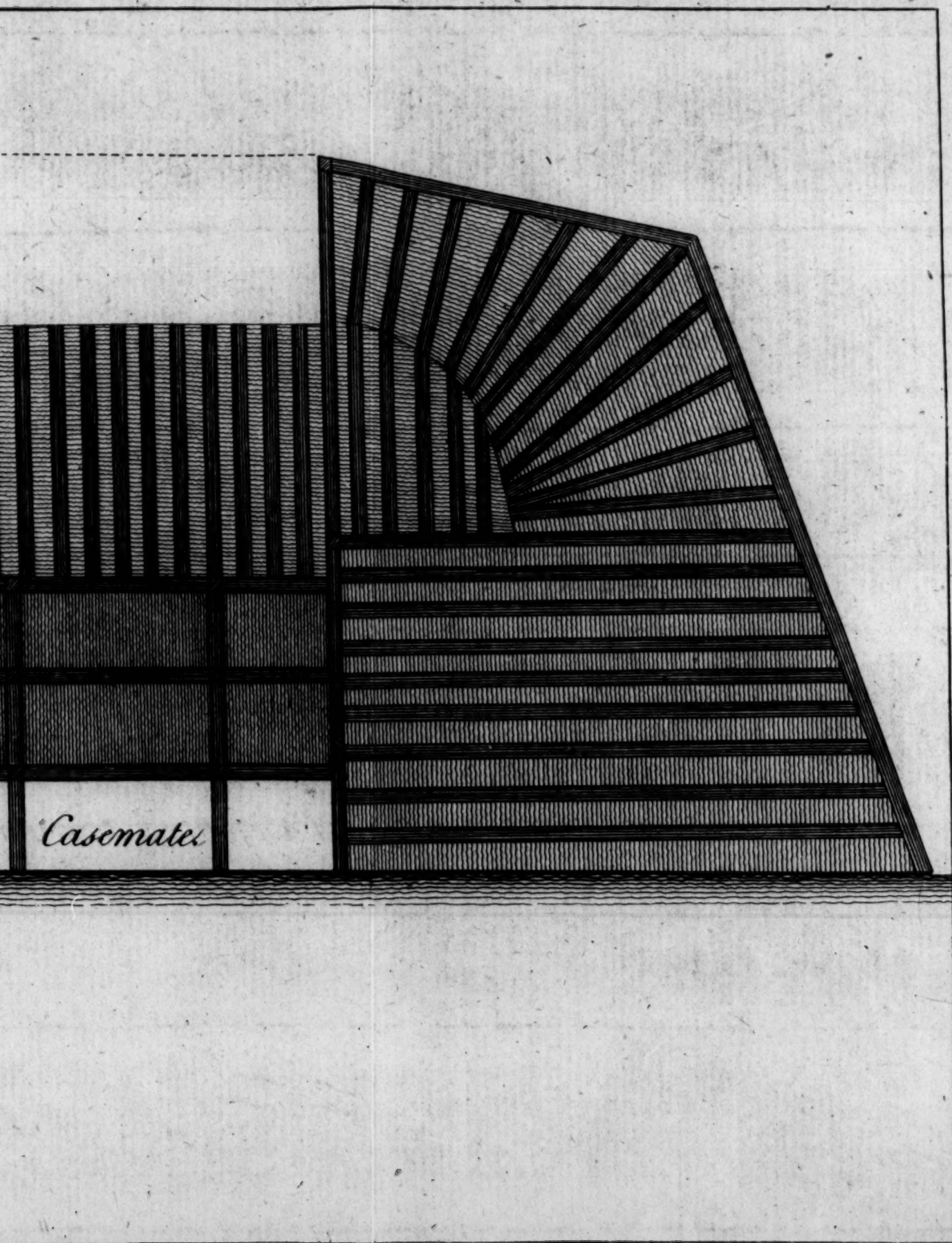


Plate 24.



I.B. sc.



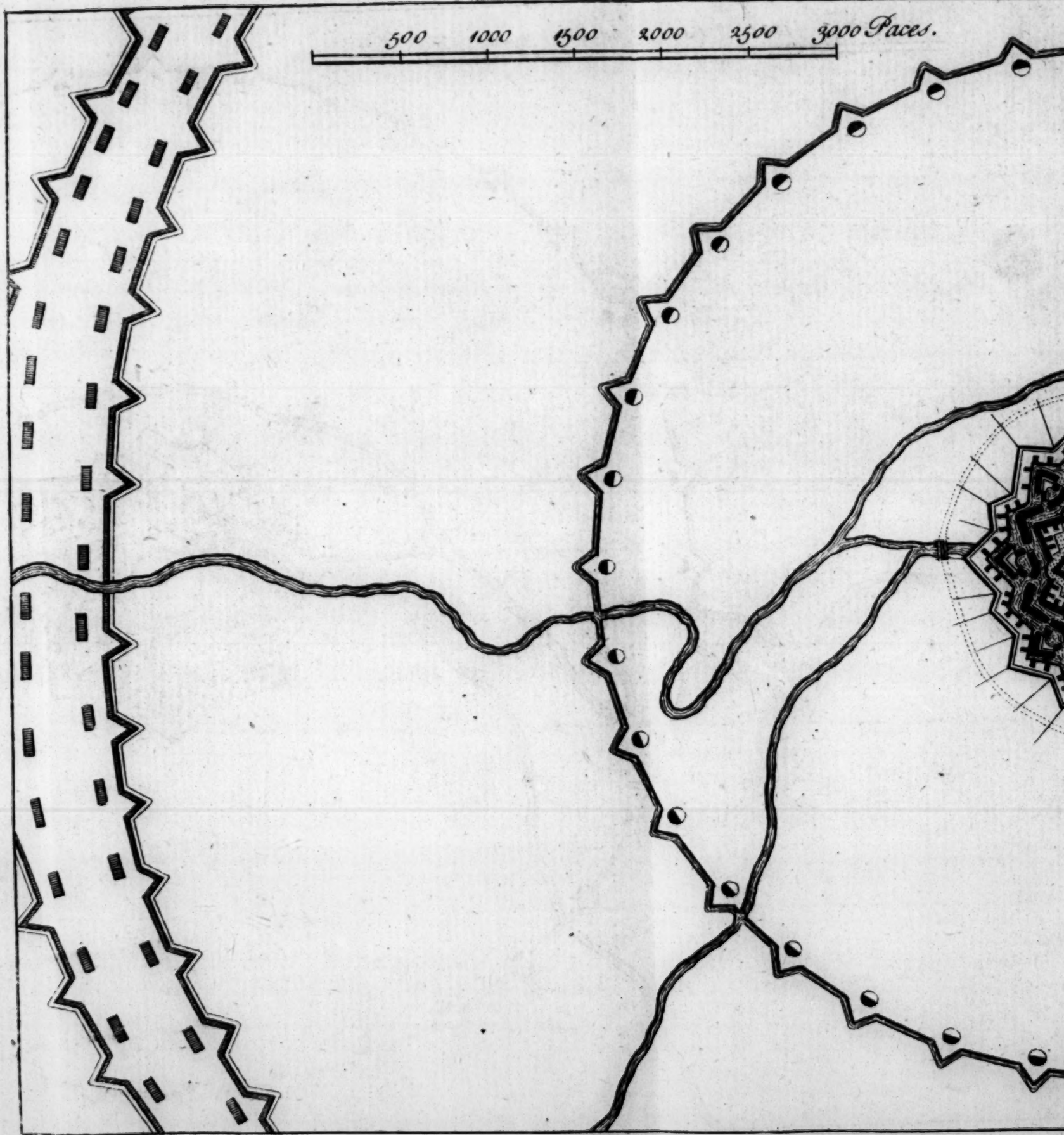
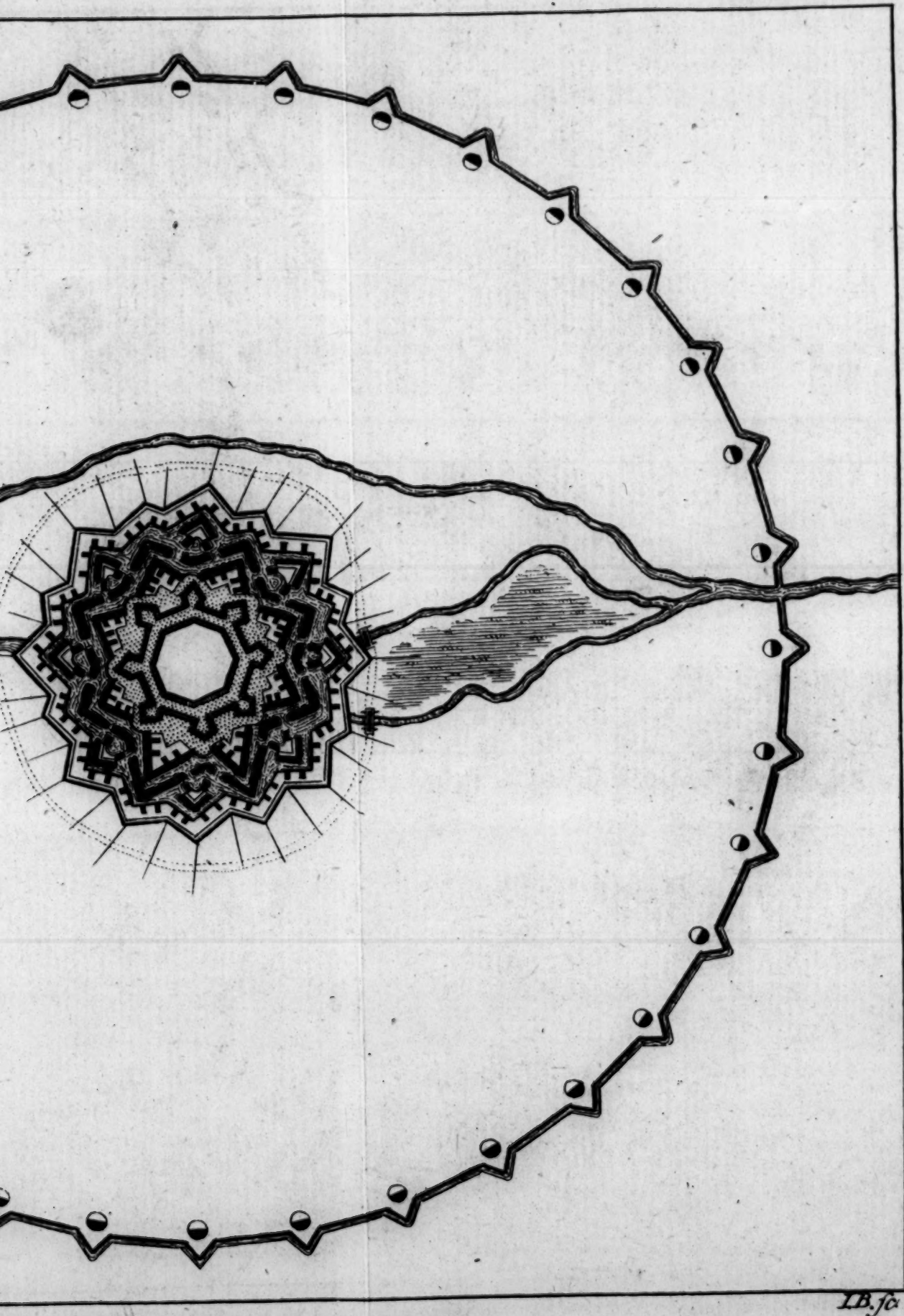
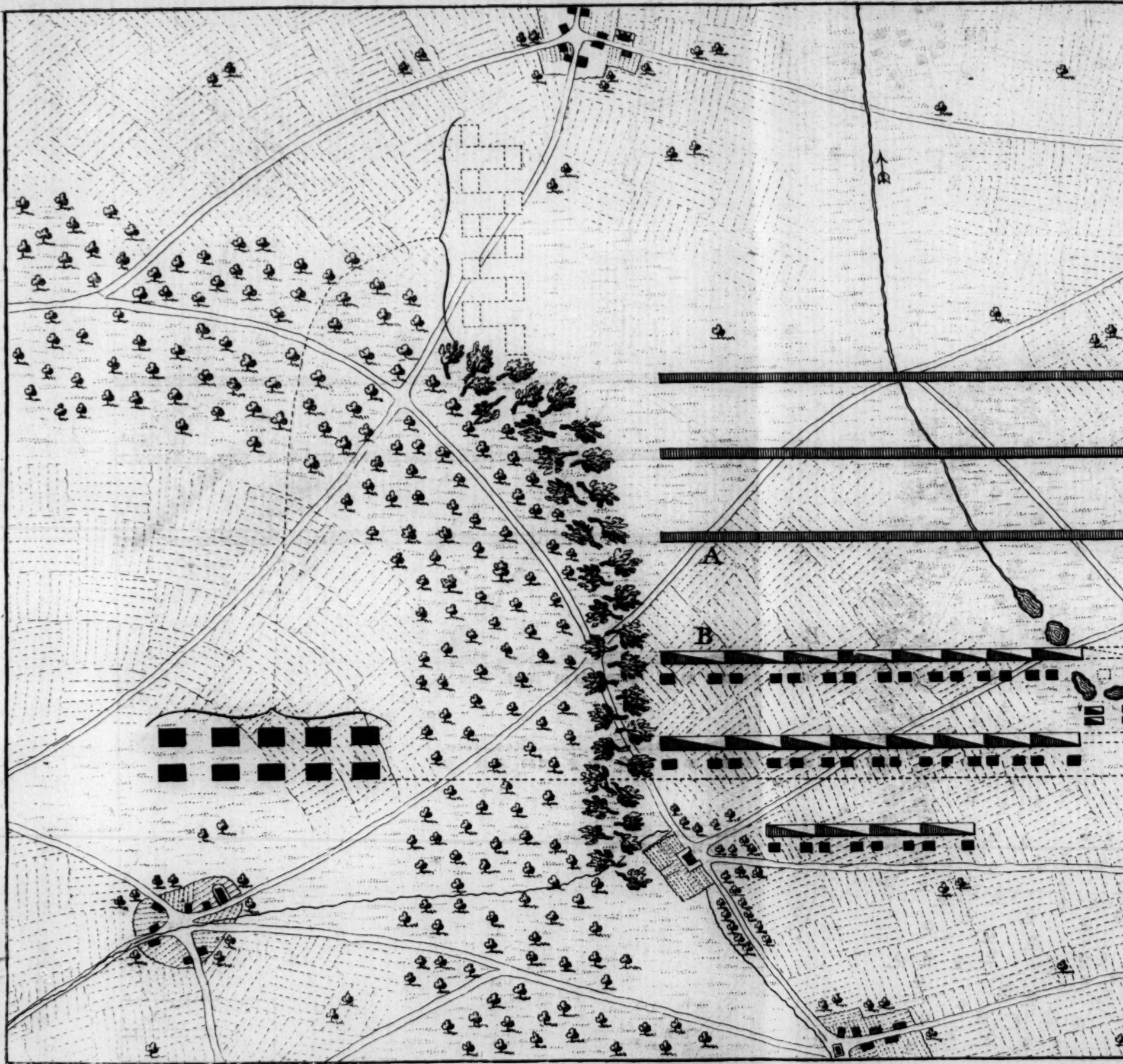
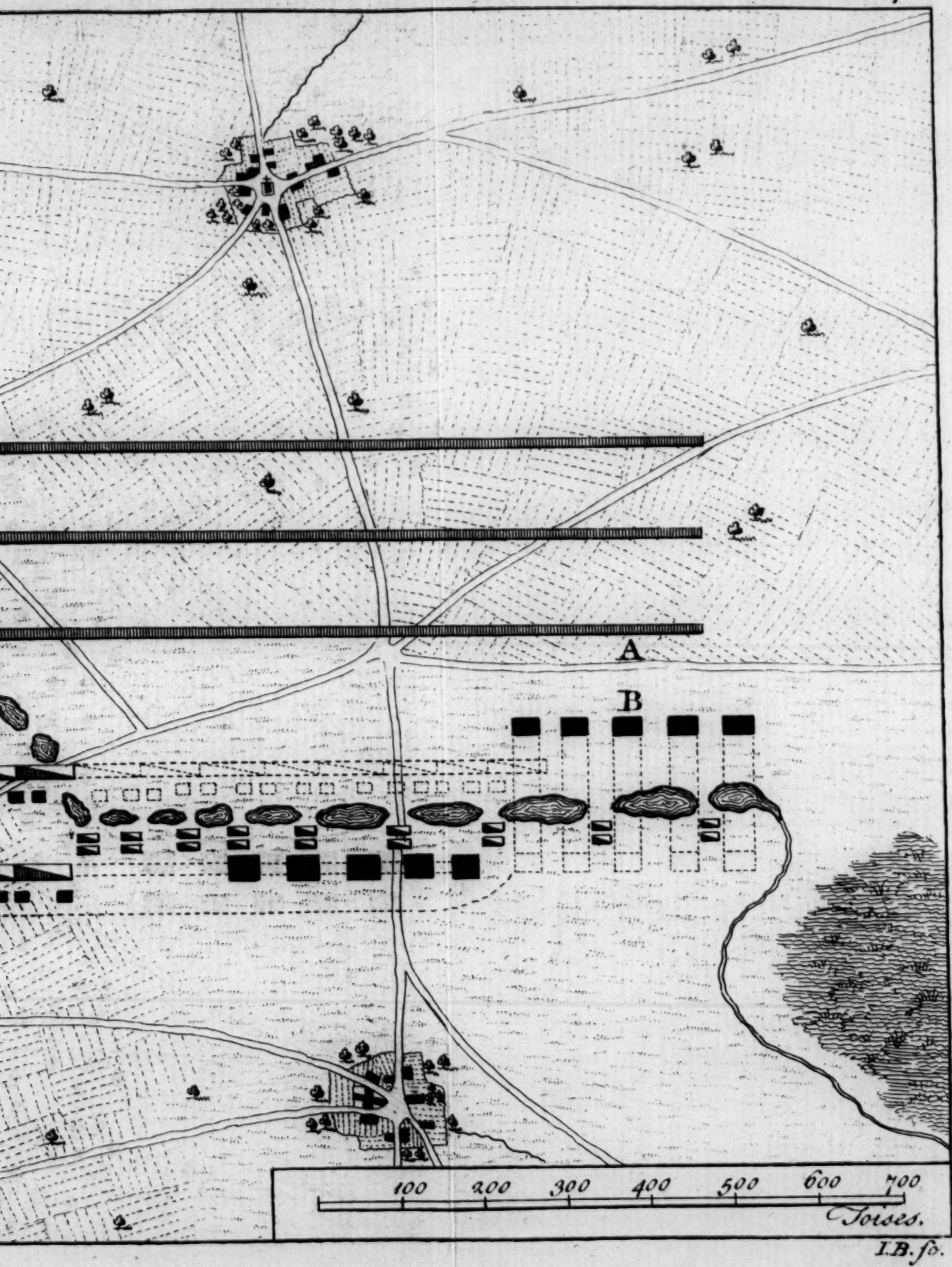


Plate 26.



LB. ja





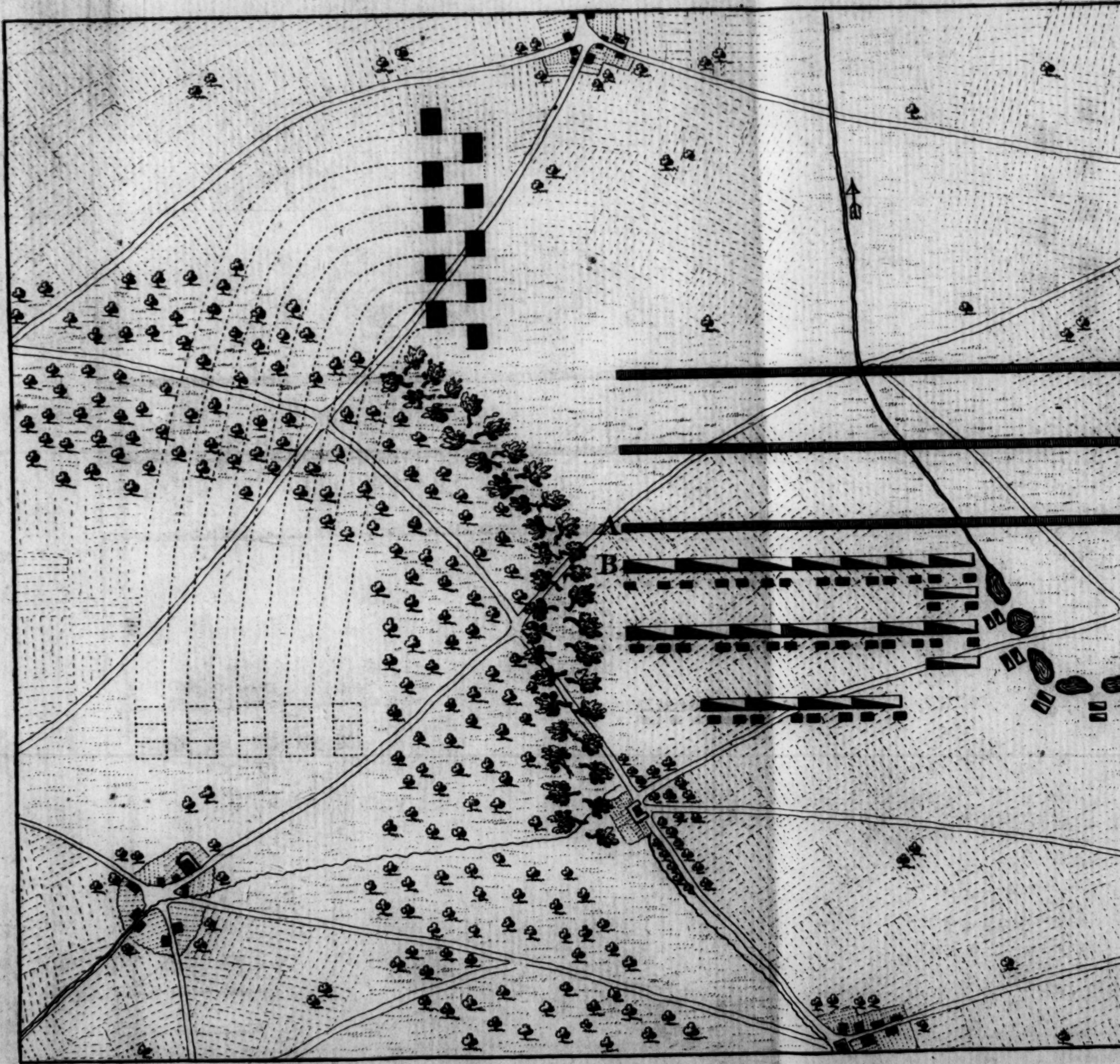
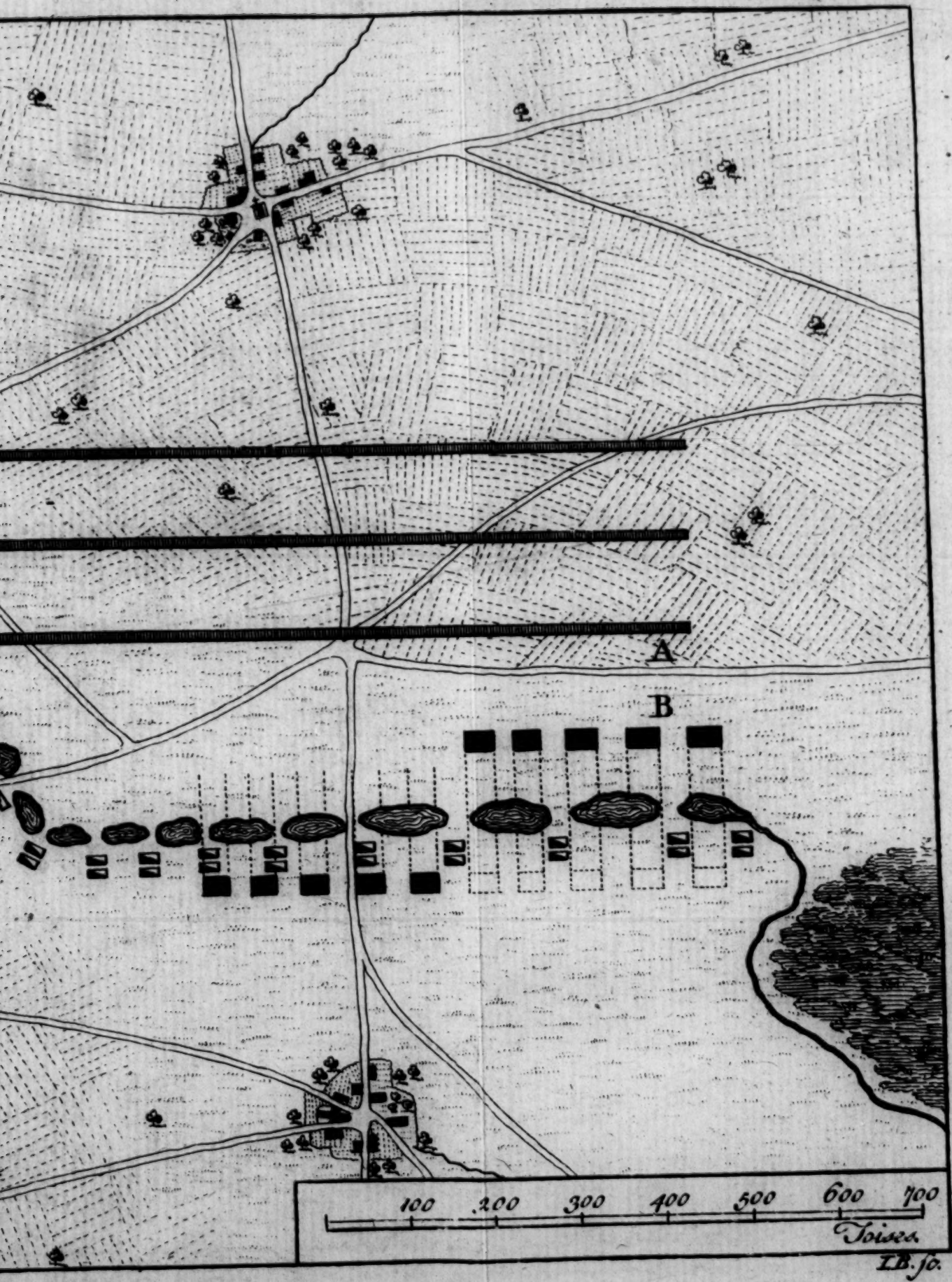


Plate 28.



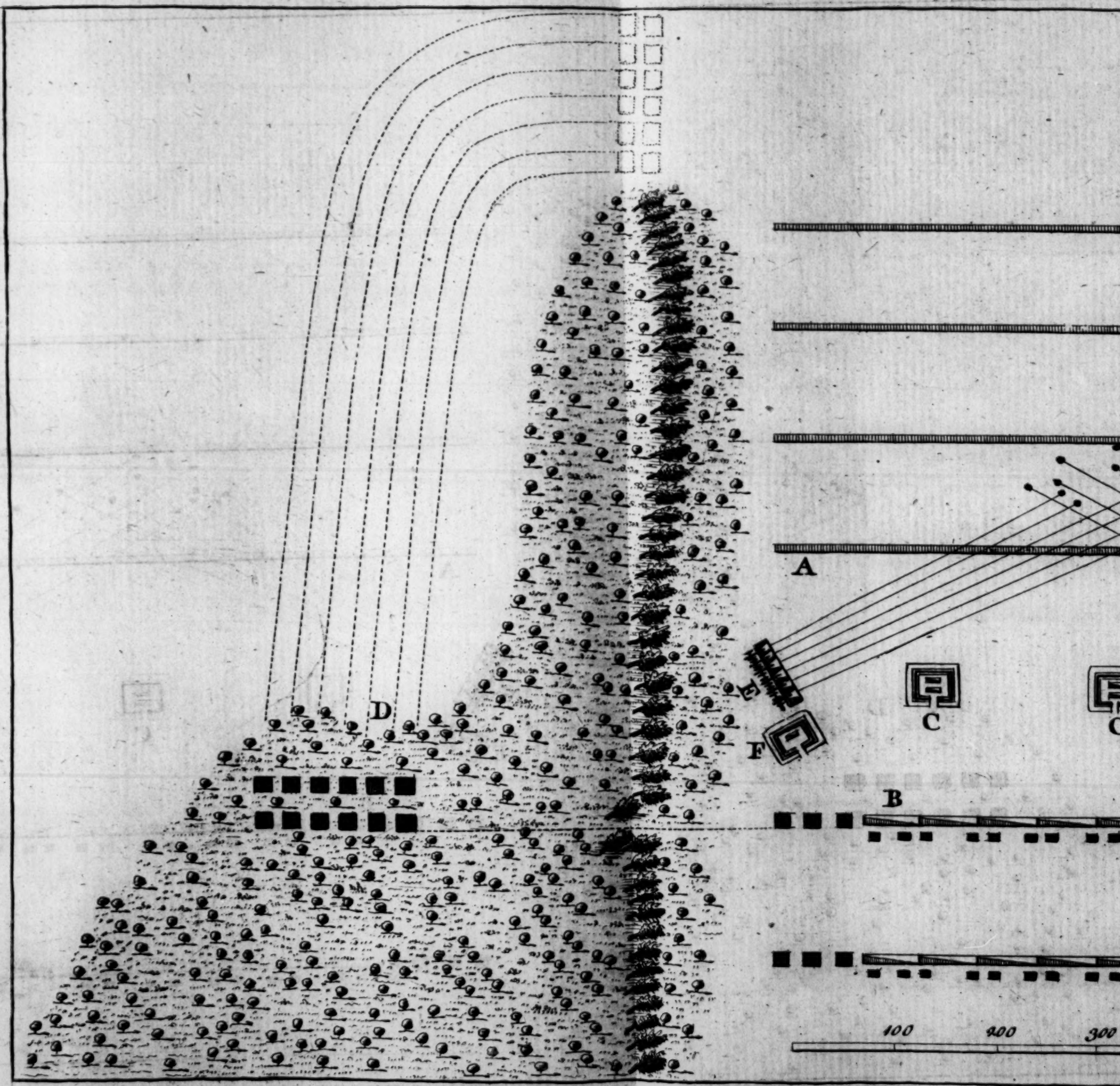
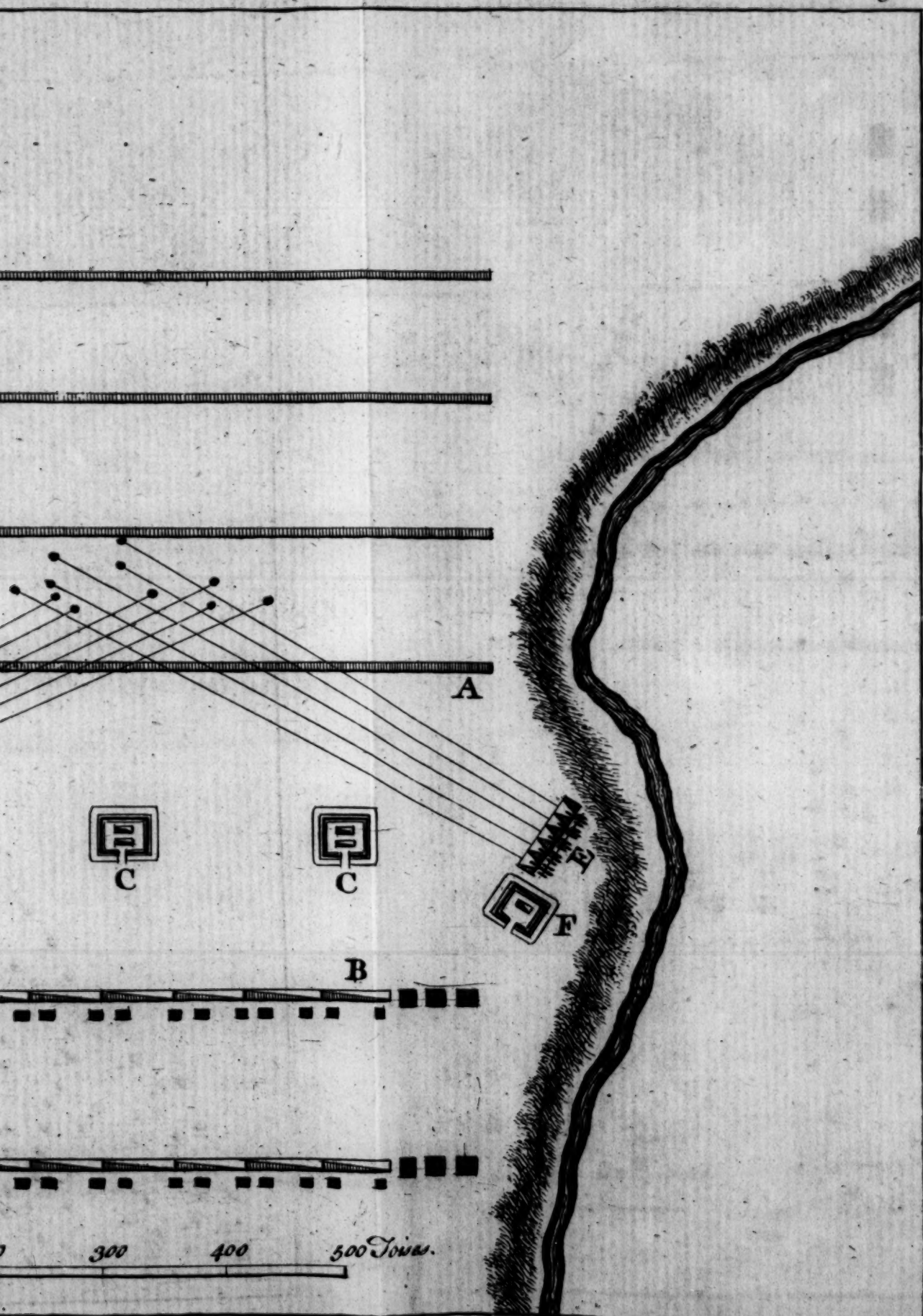
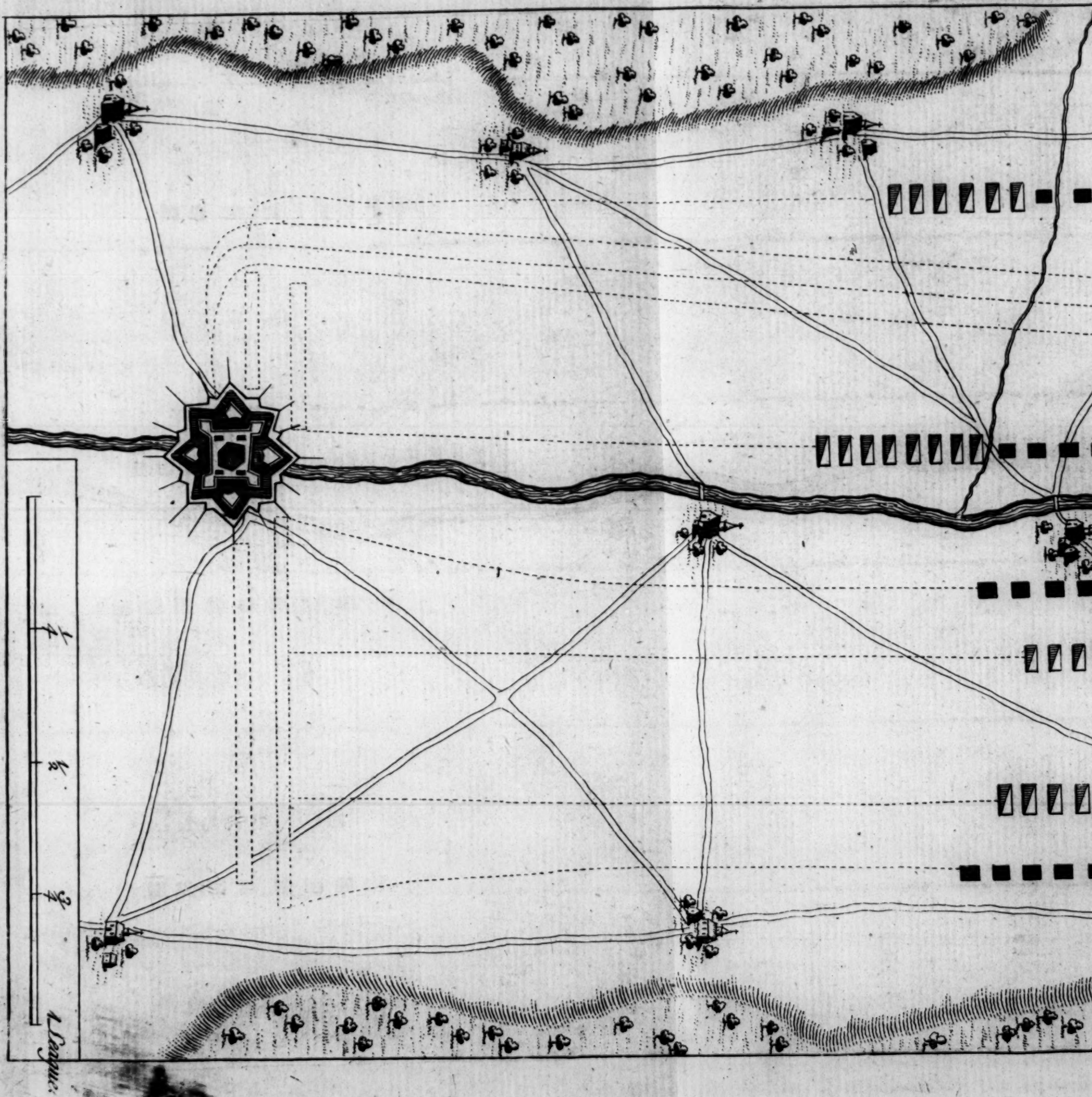
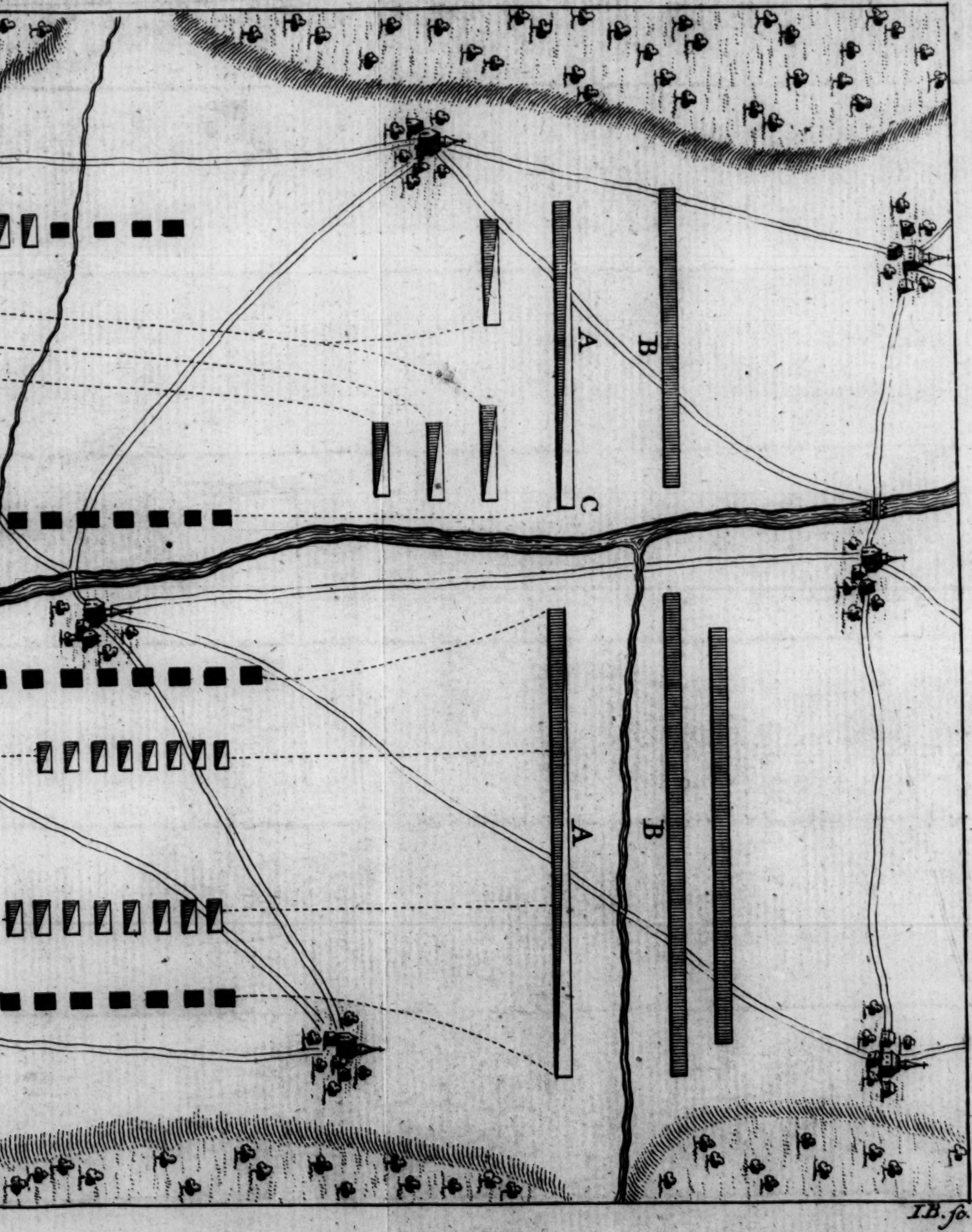


Plate 29.



I.B. sc.





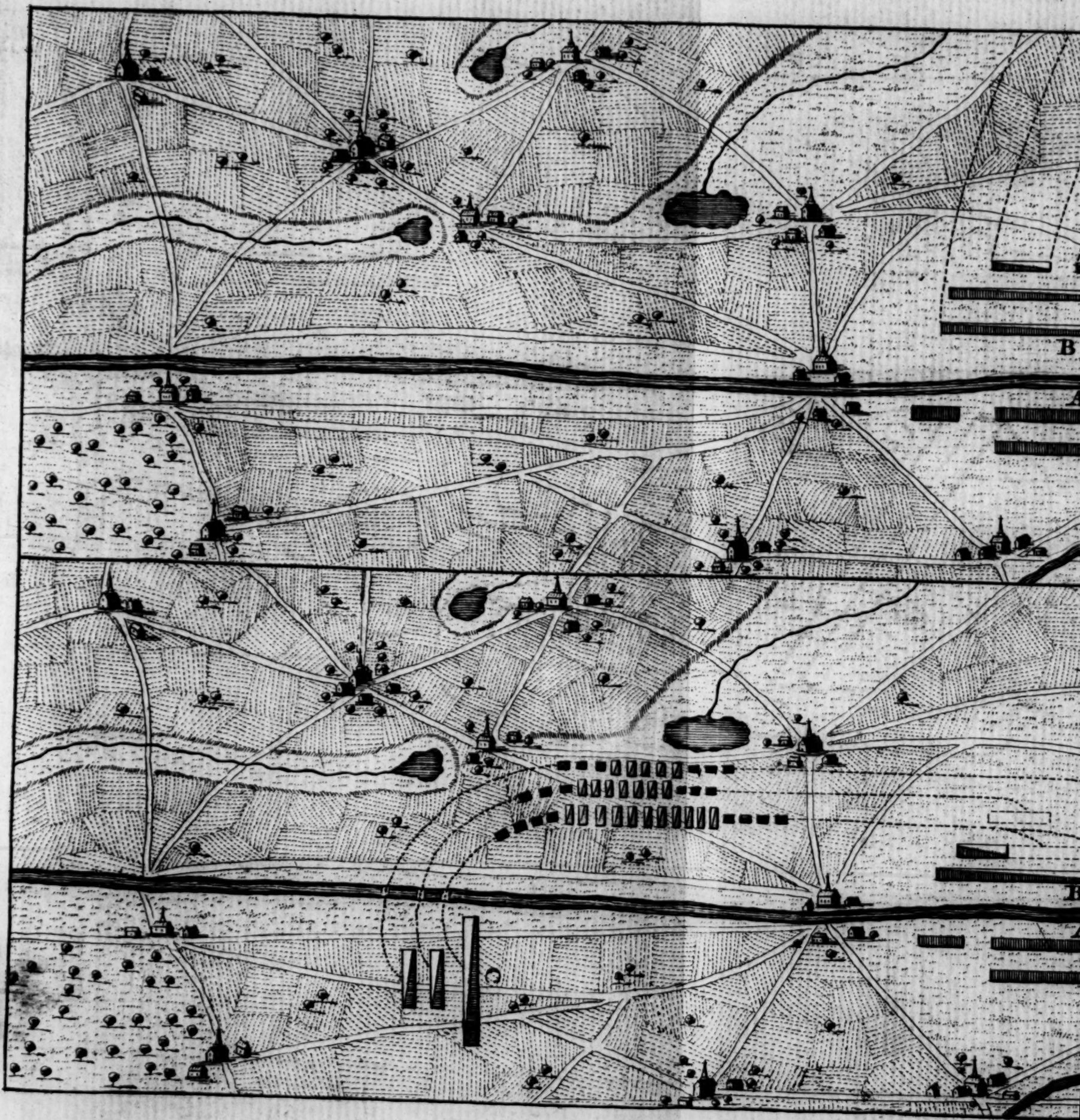
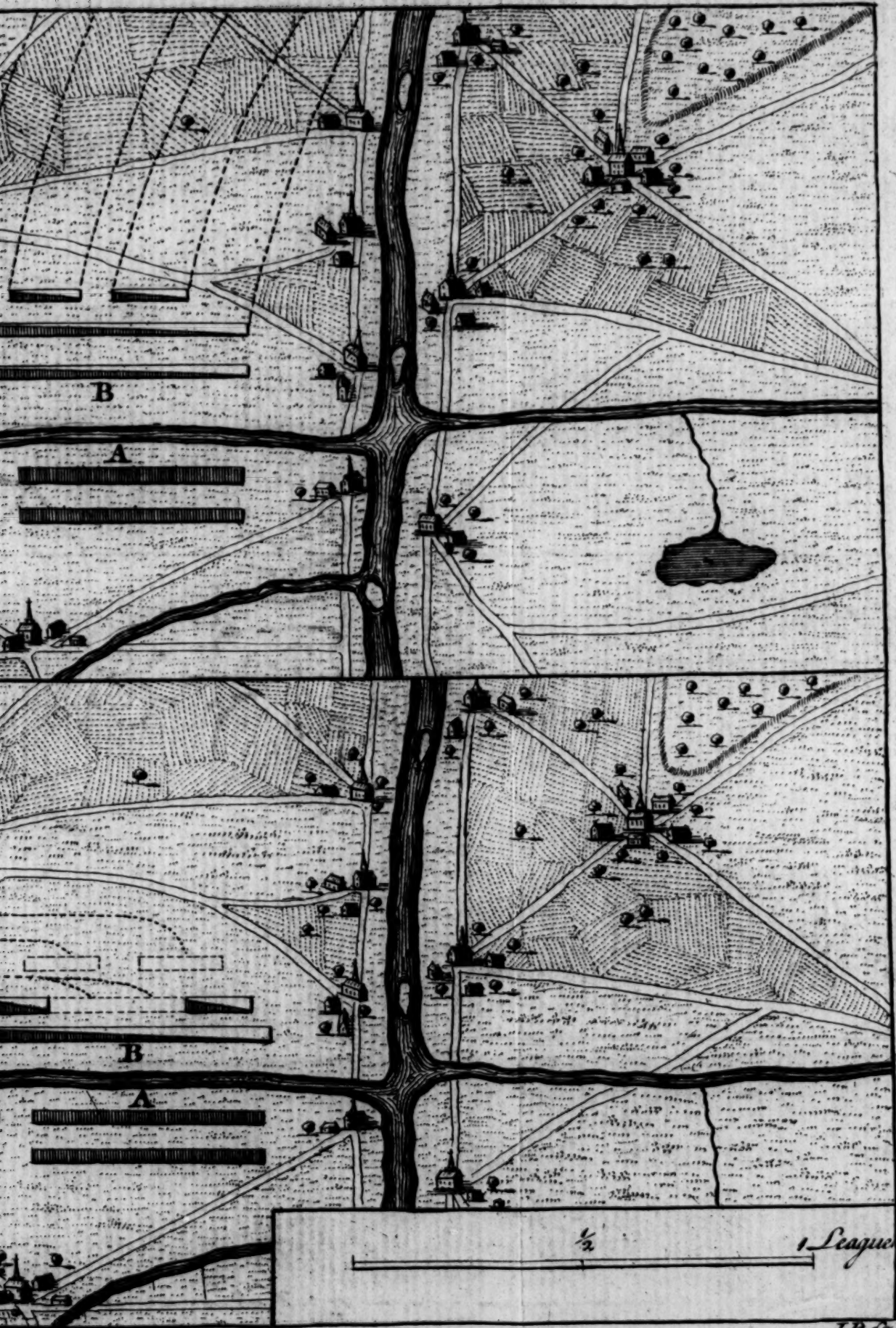


Plate 31.



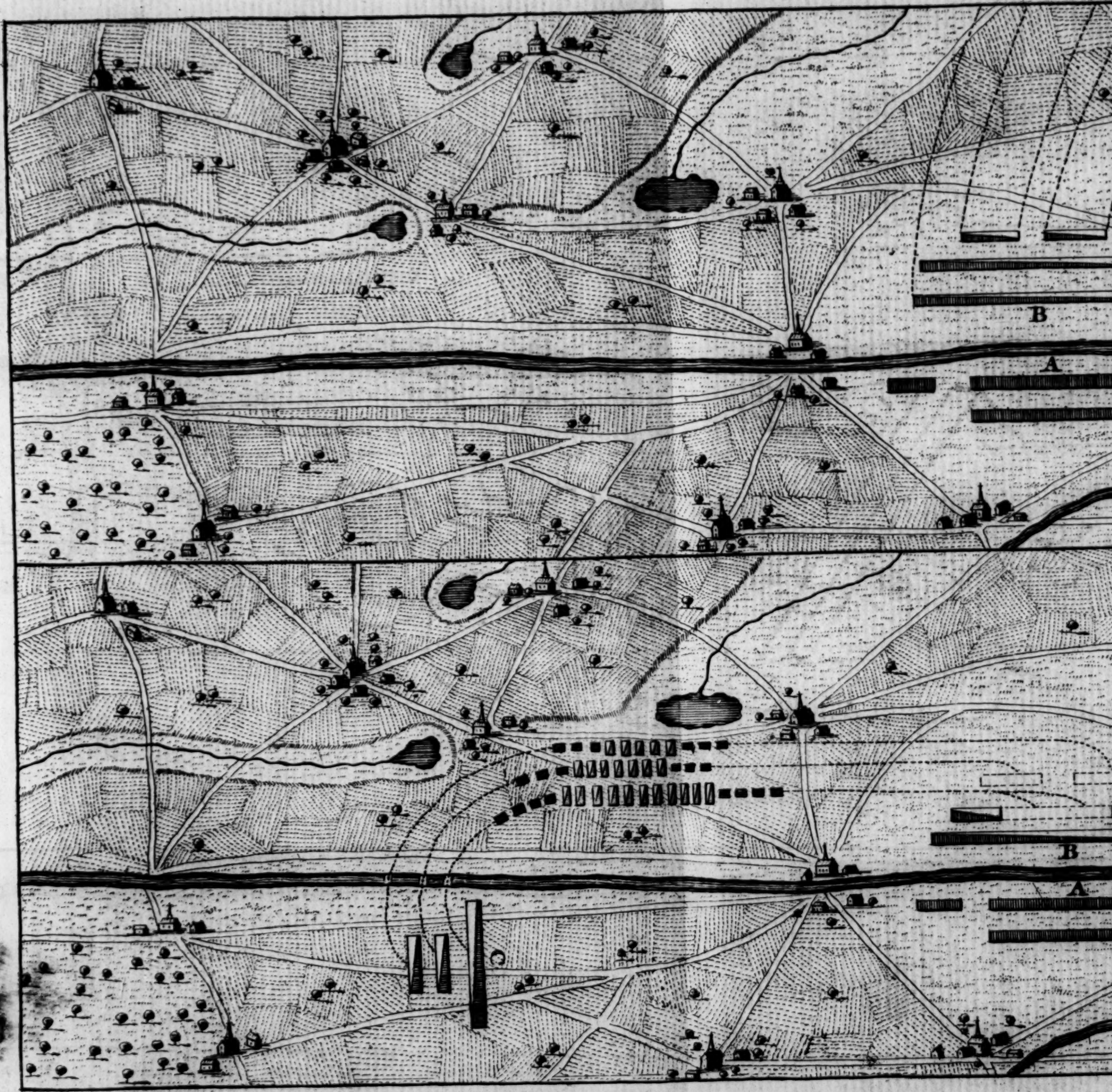
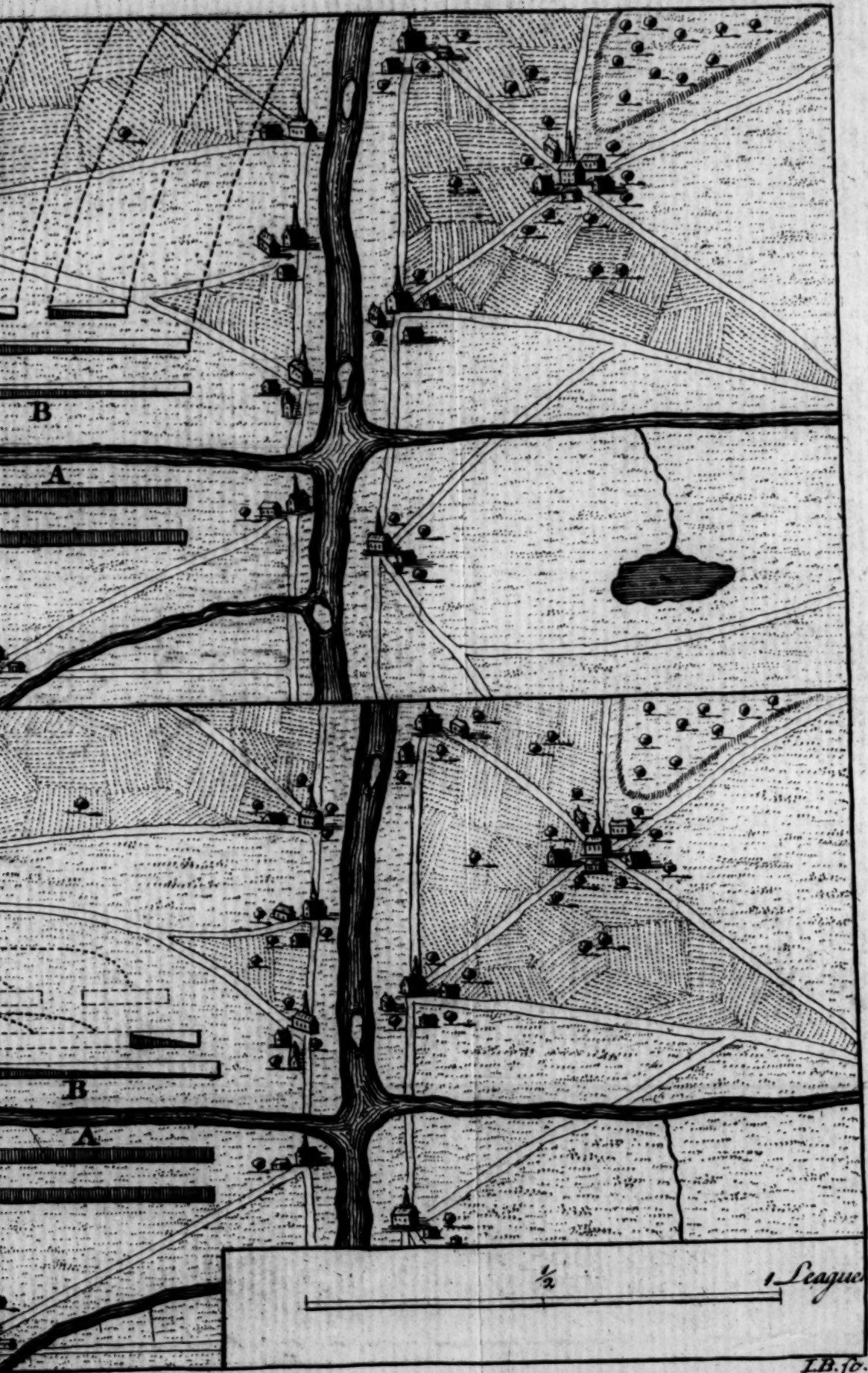


Plate 31.



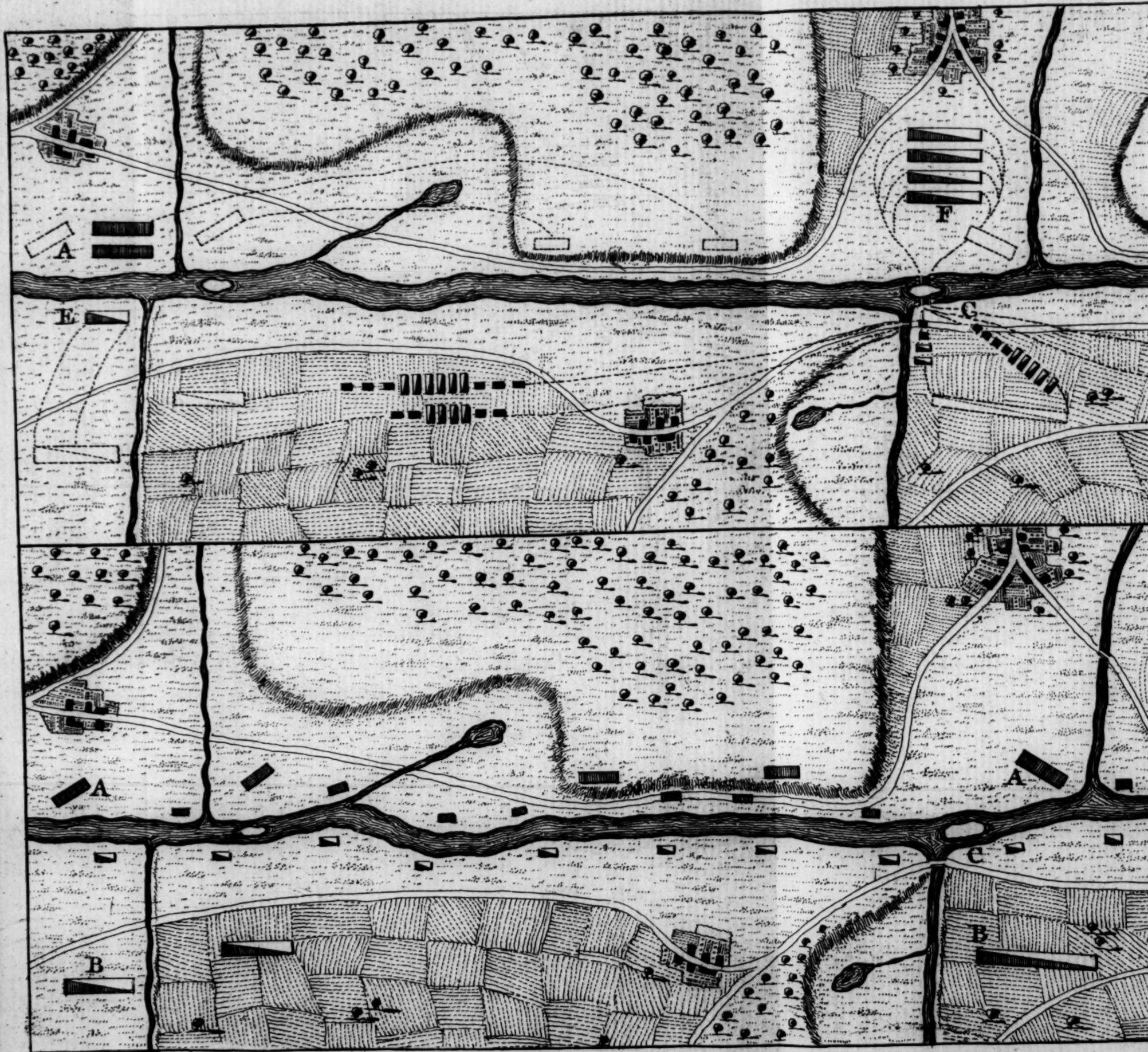
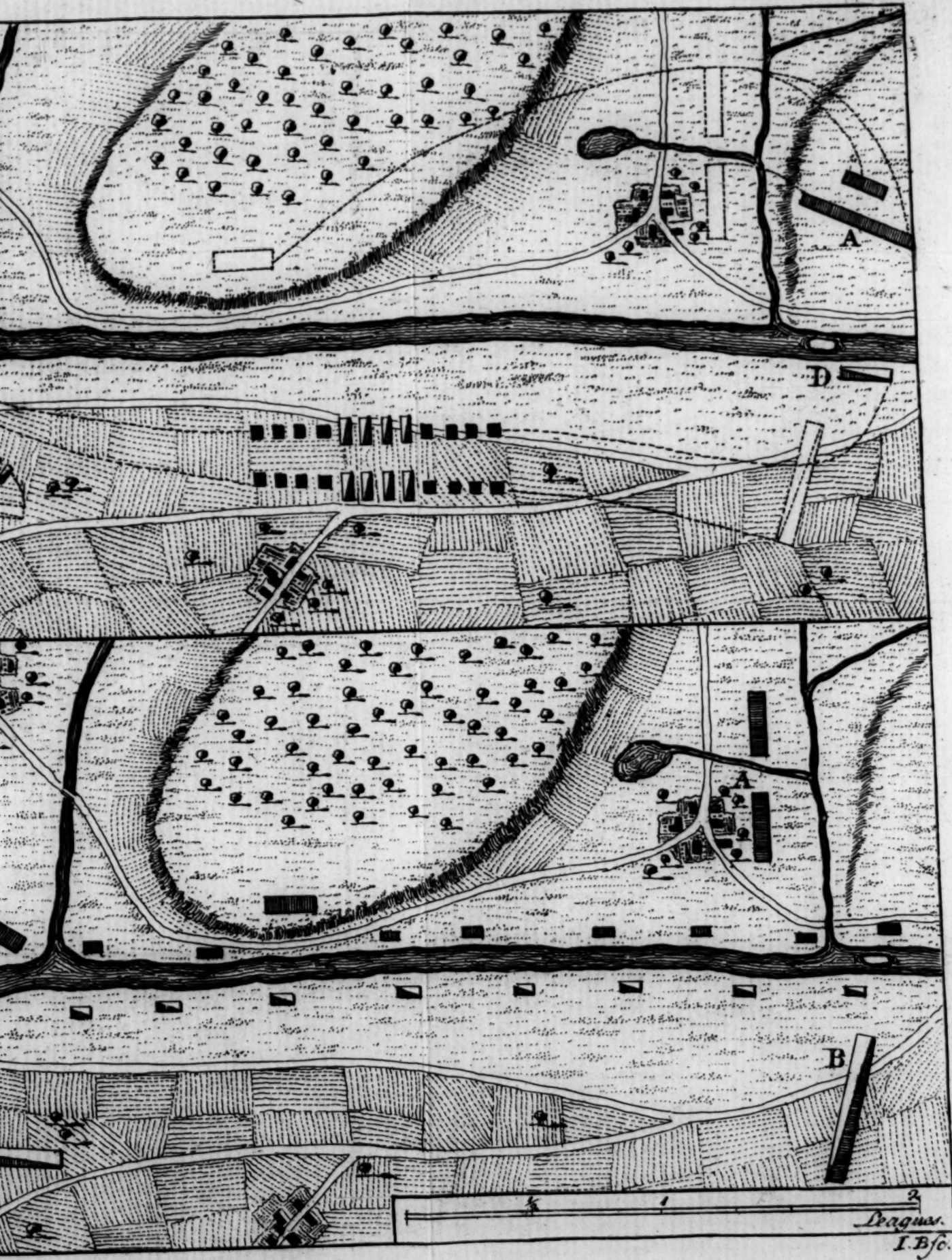
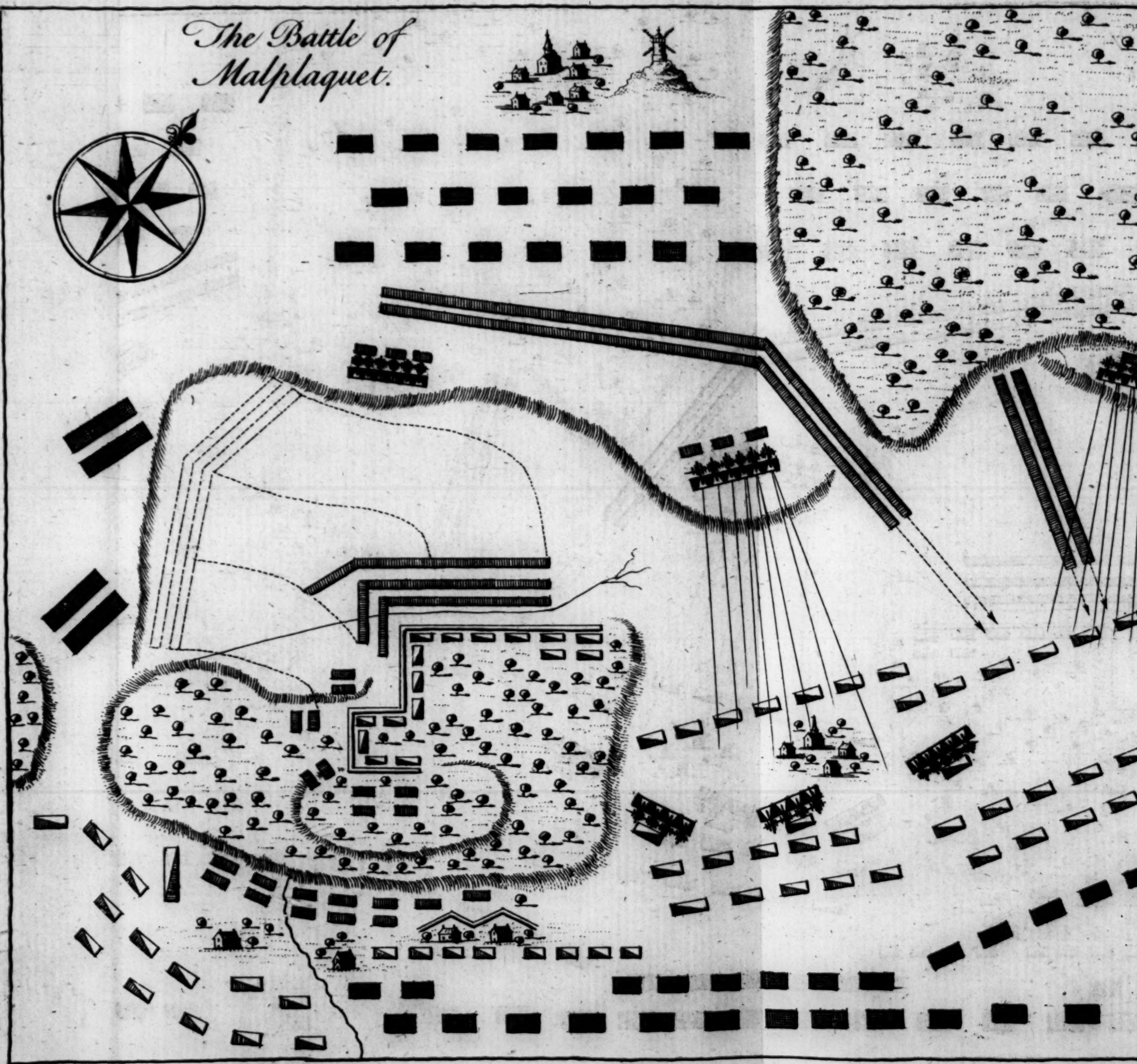
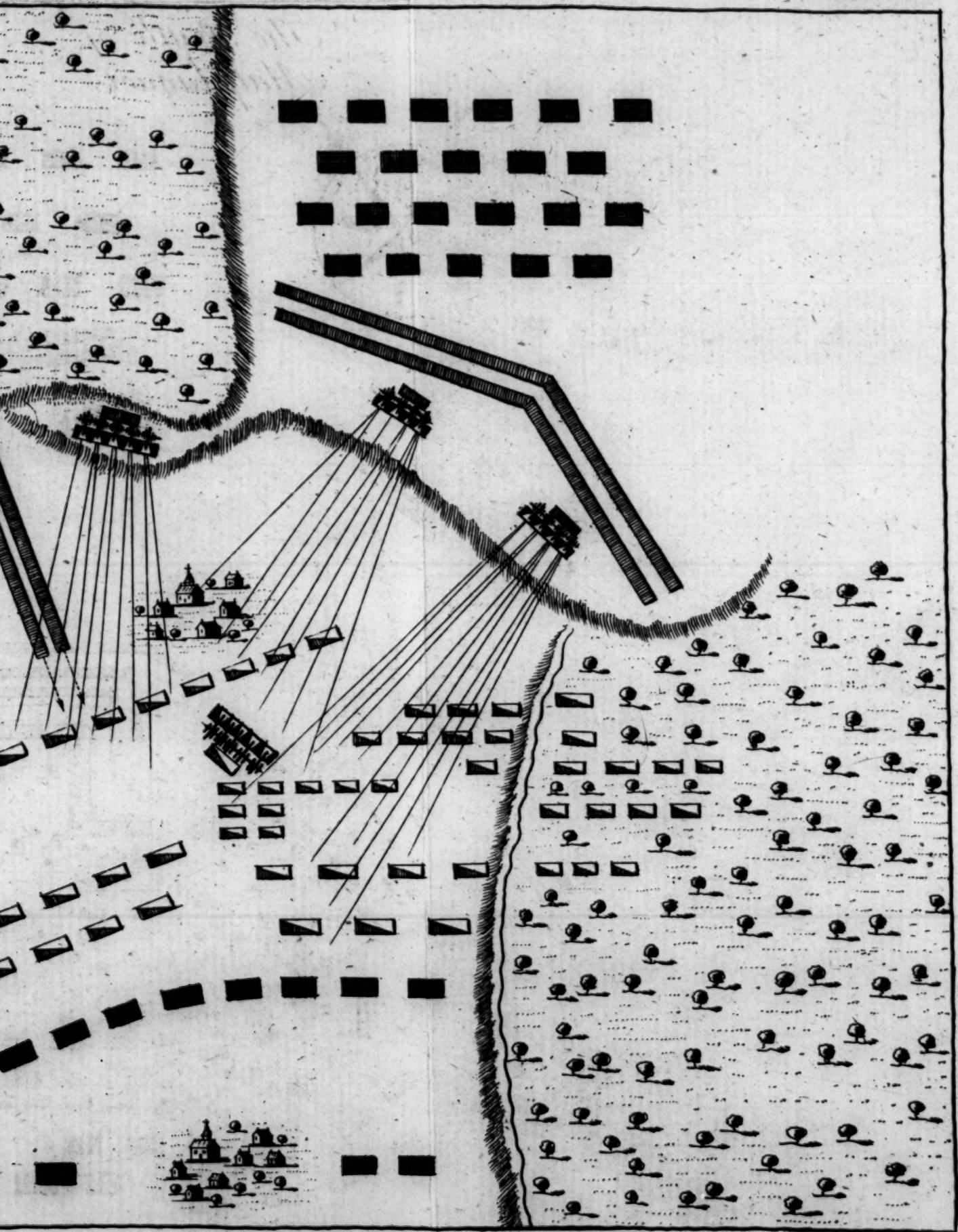


Plate 32.



*The Battle of
Malplaquet.*





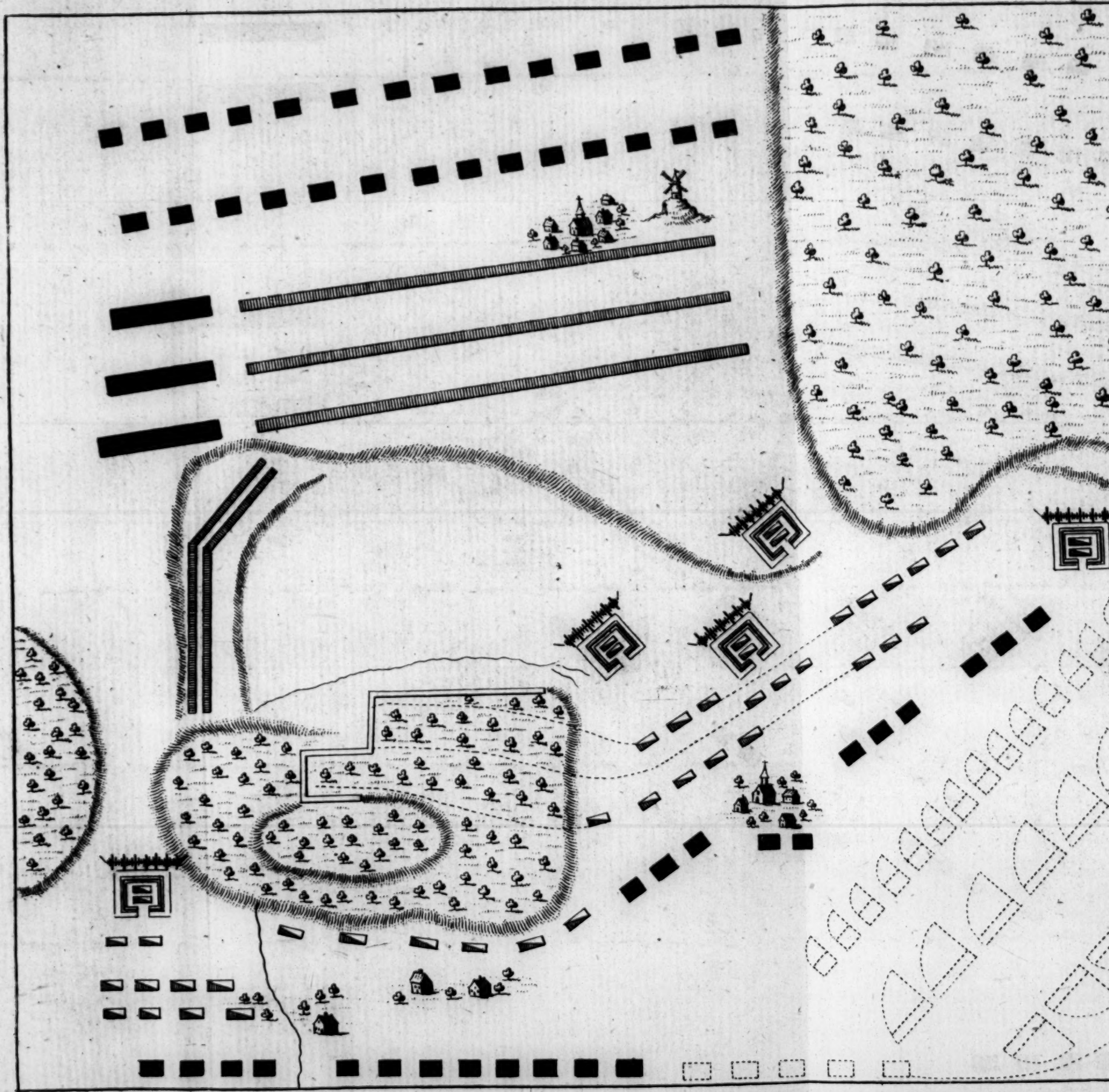
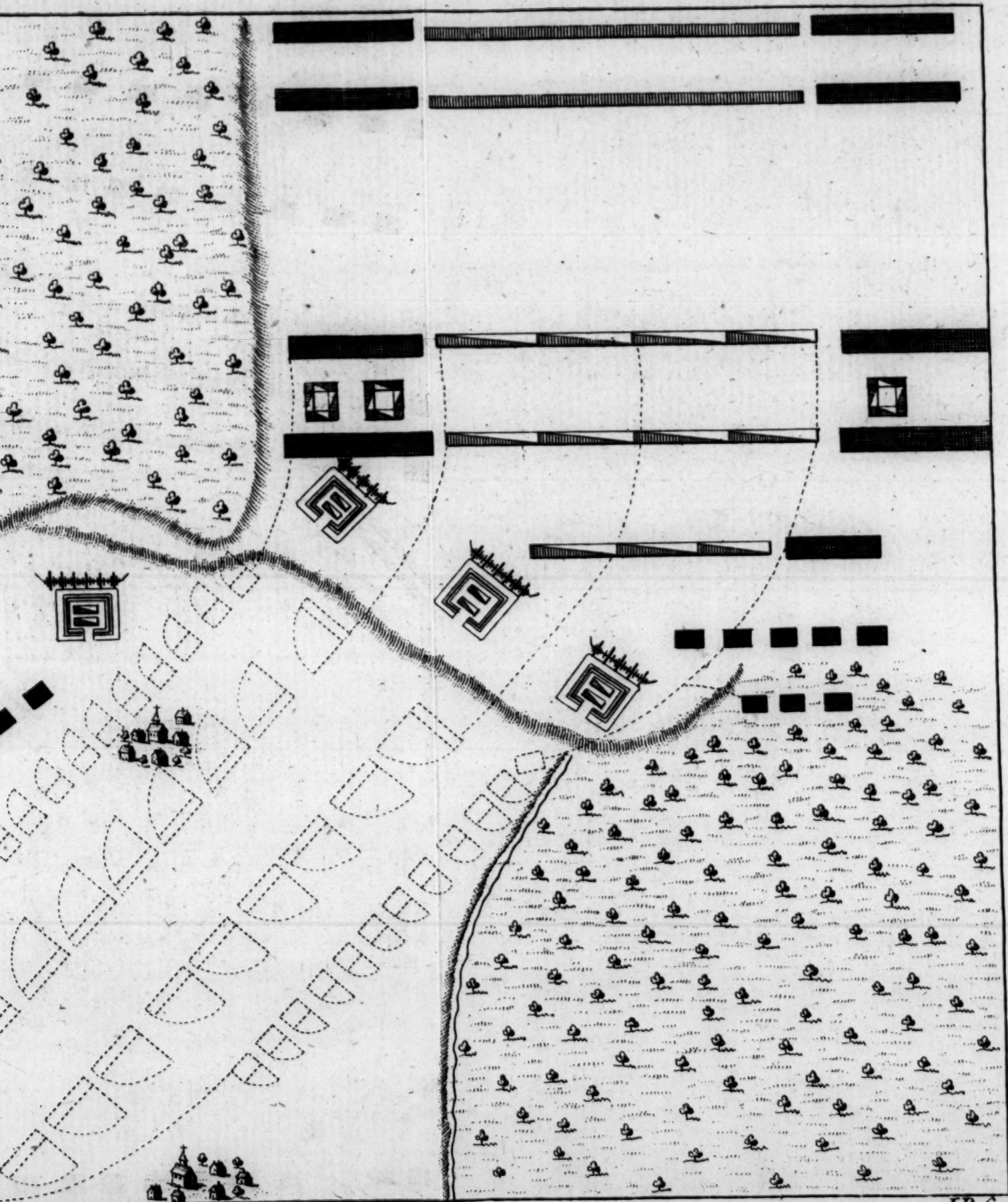
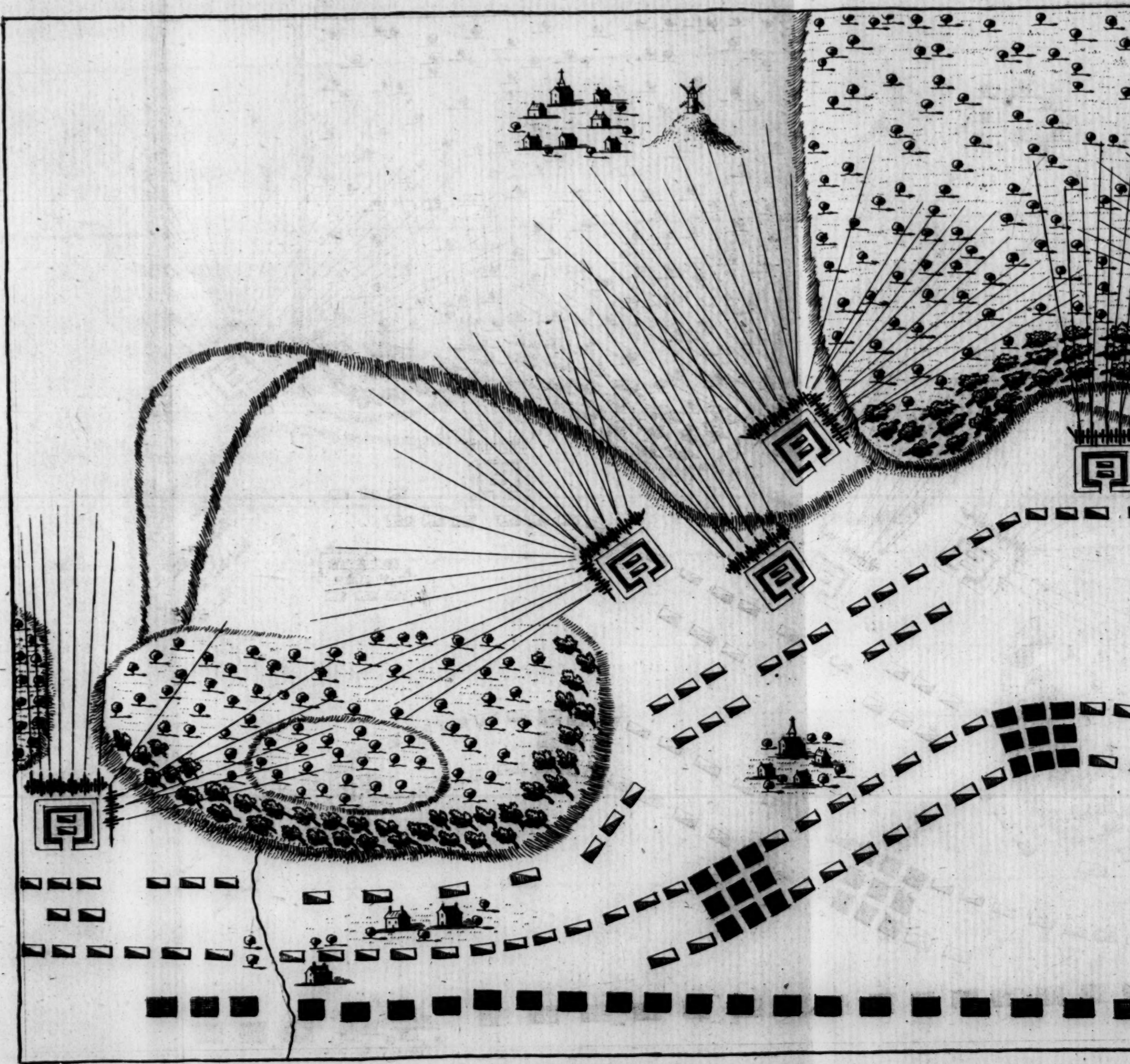
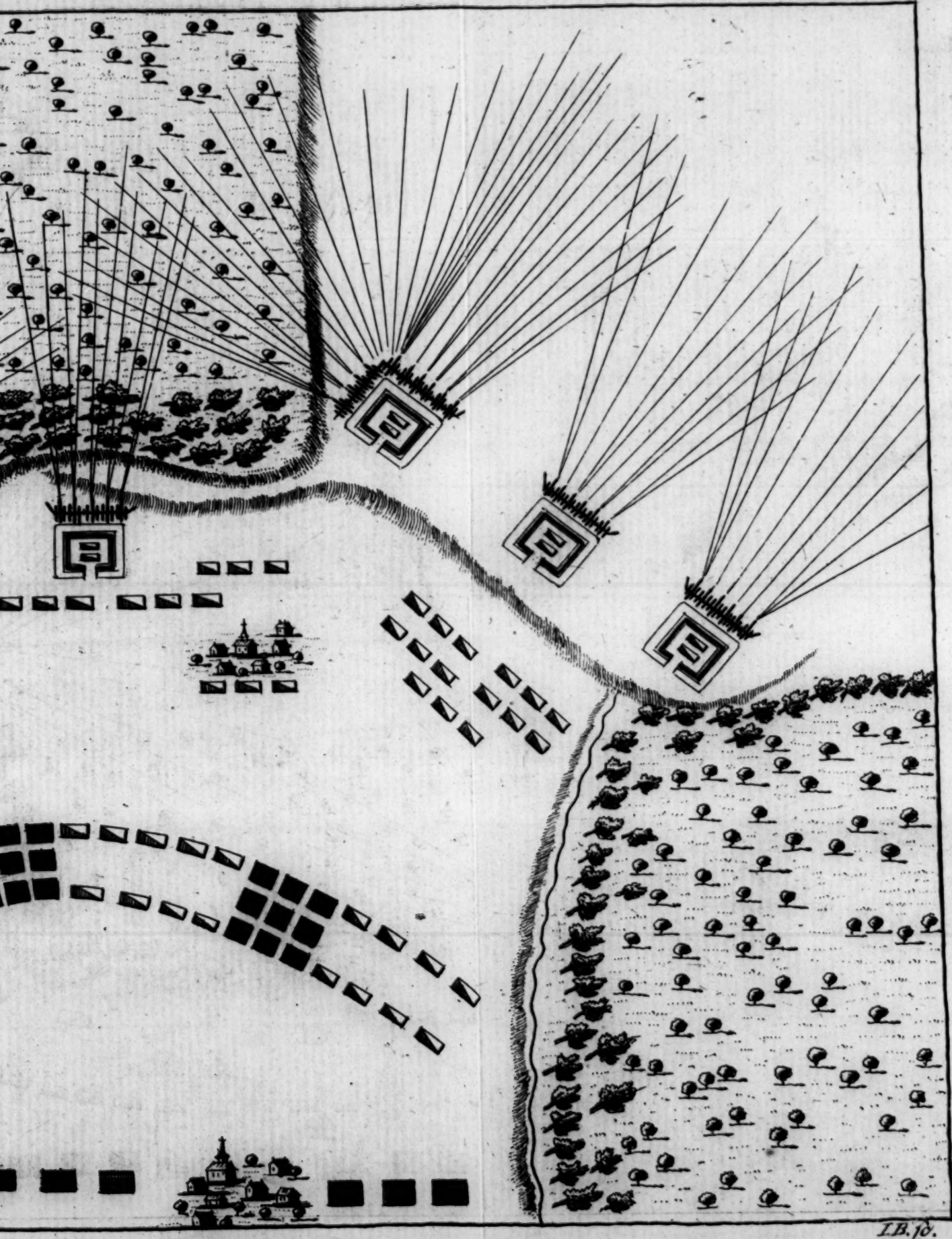


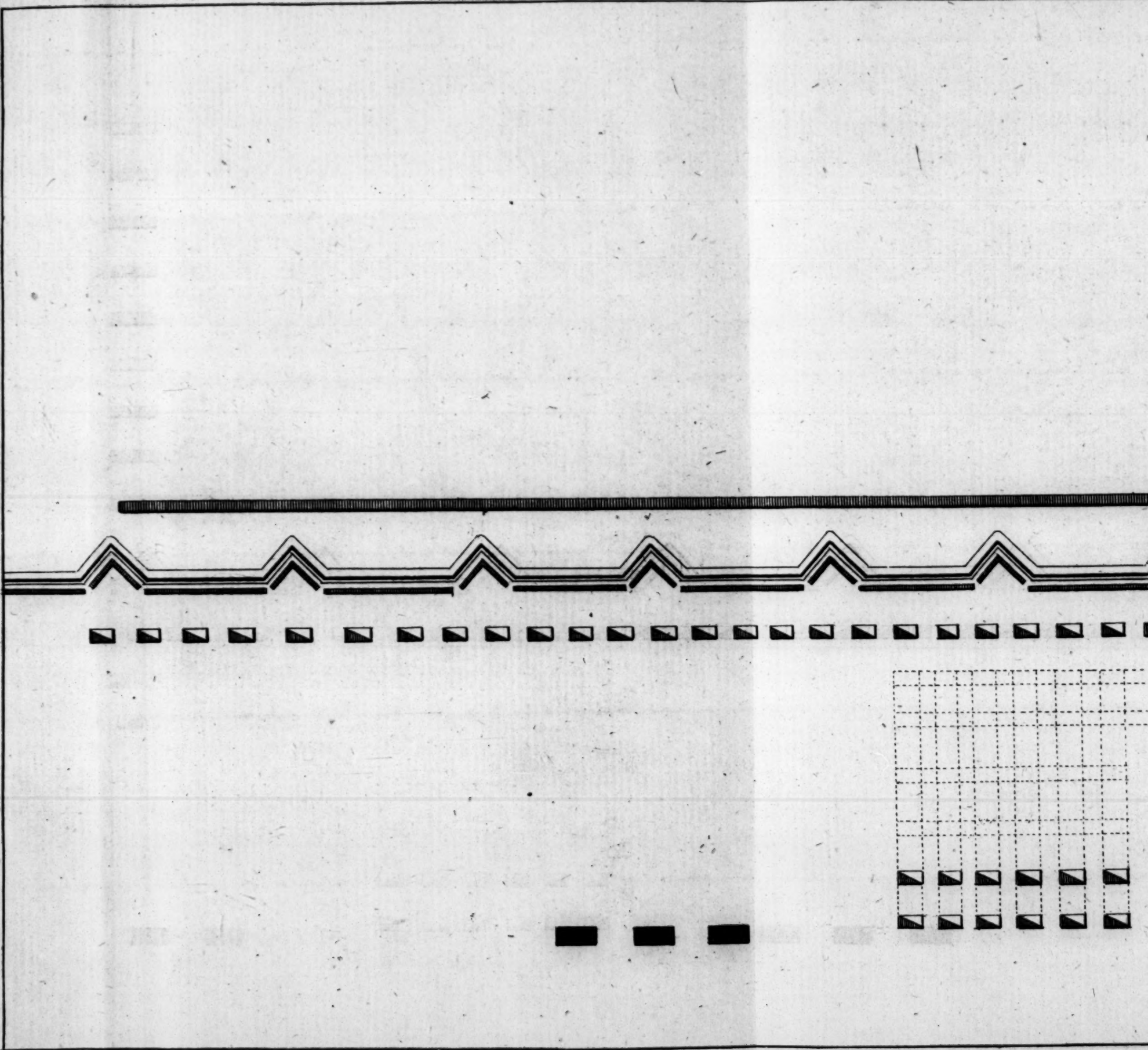
Plate 34.

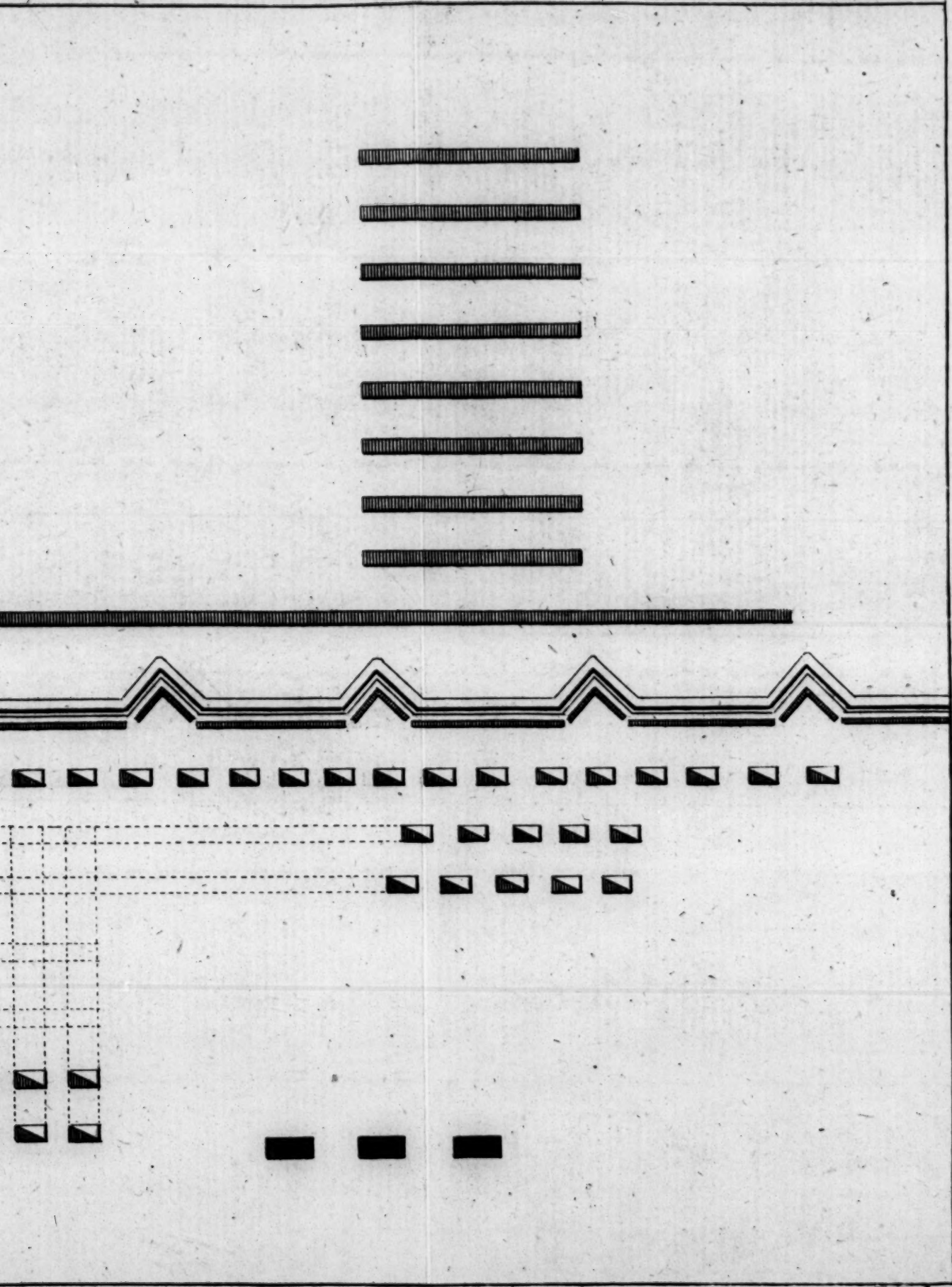


LB. sc.









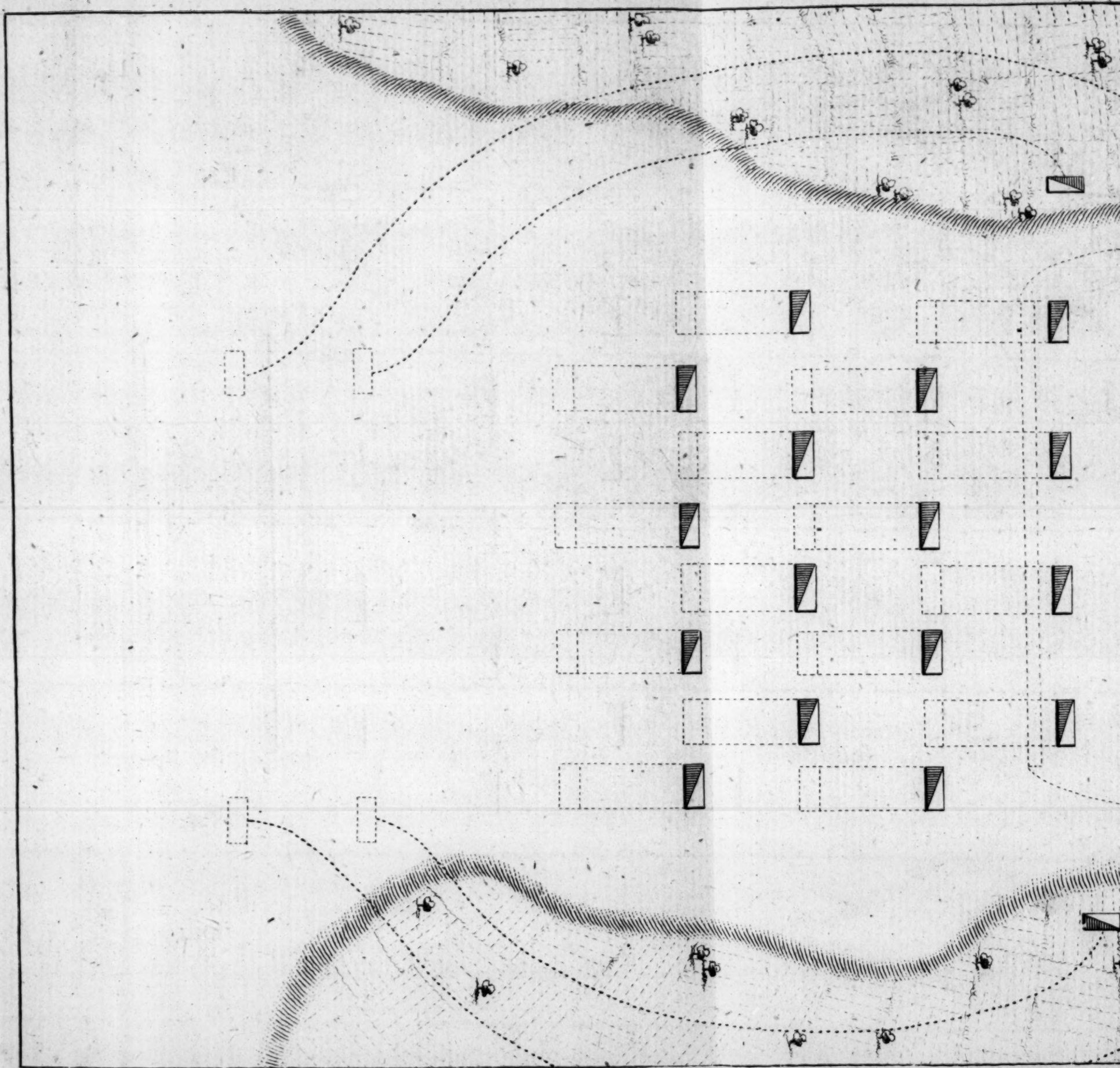
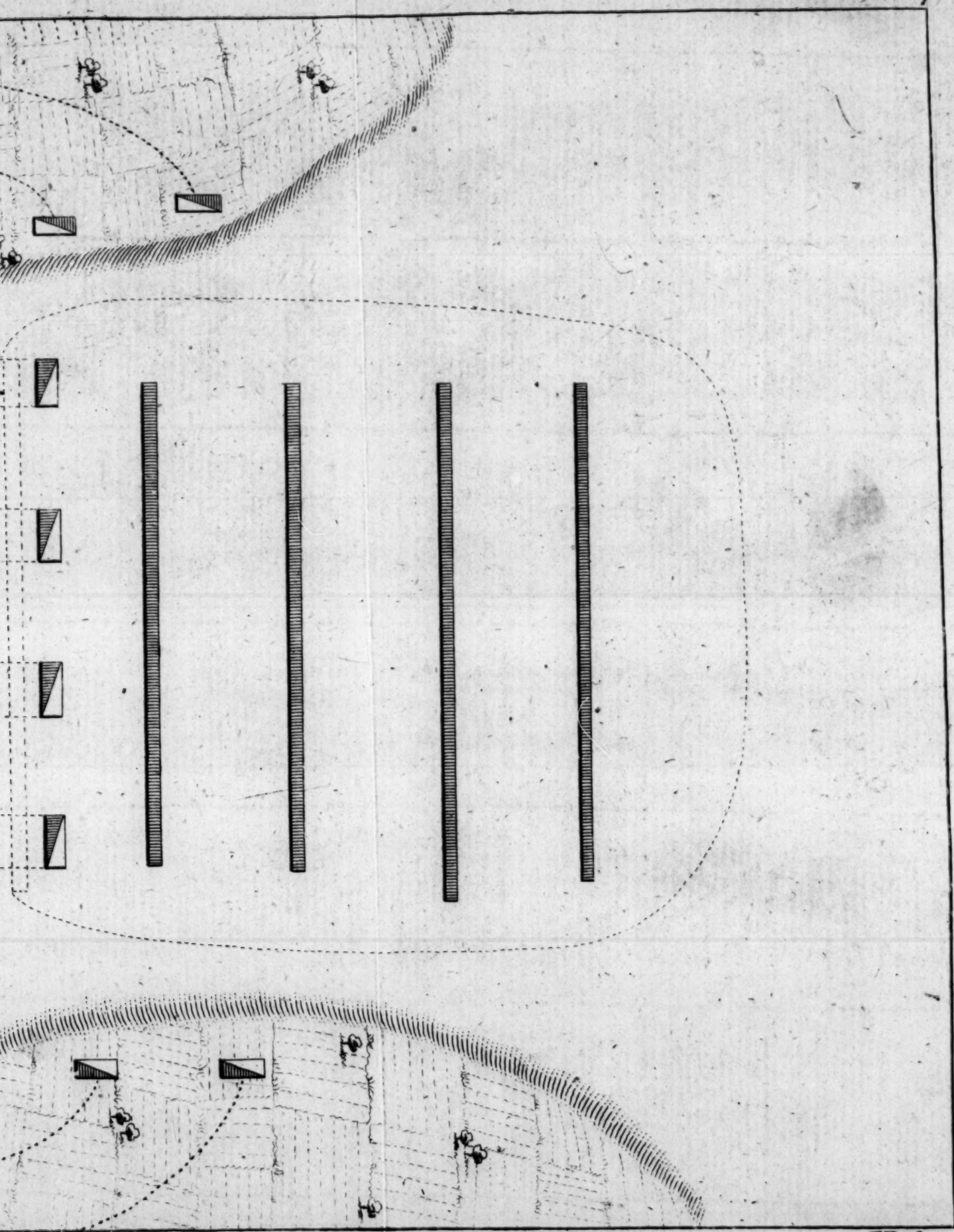


Plate 31.



IB. sc.

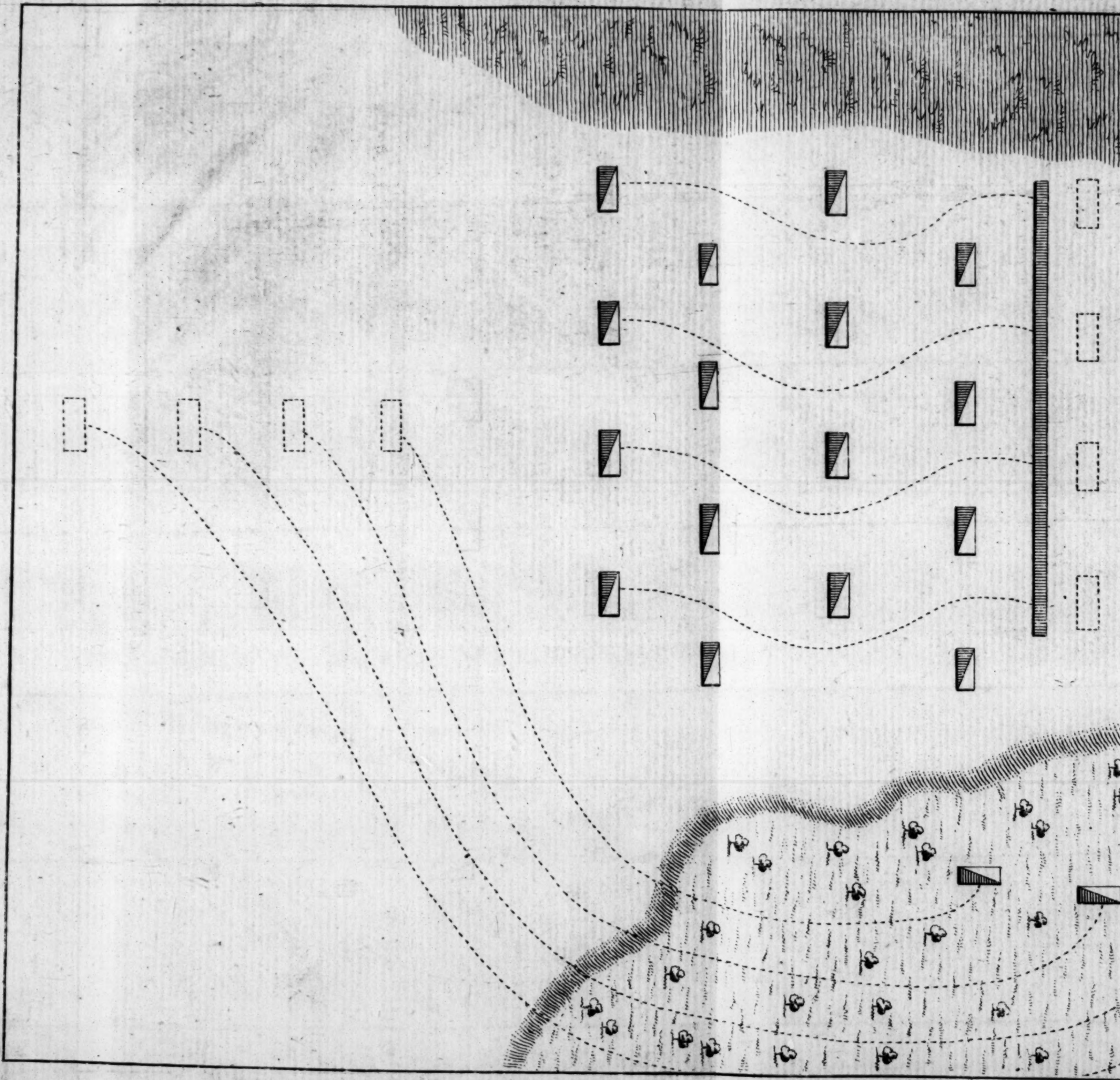
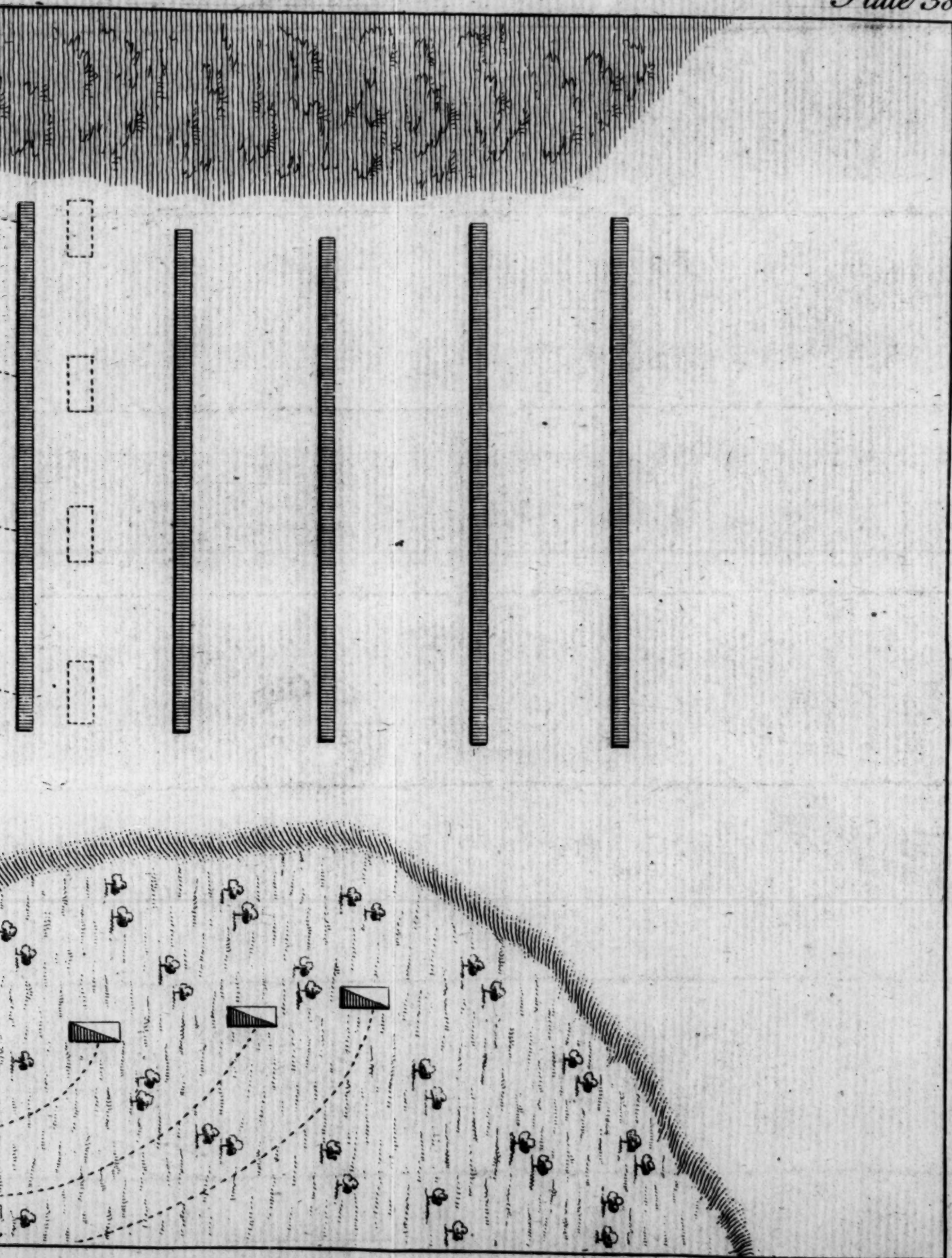
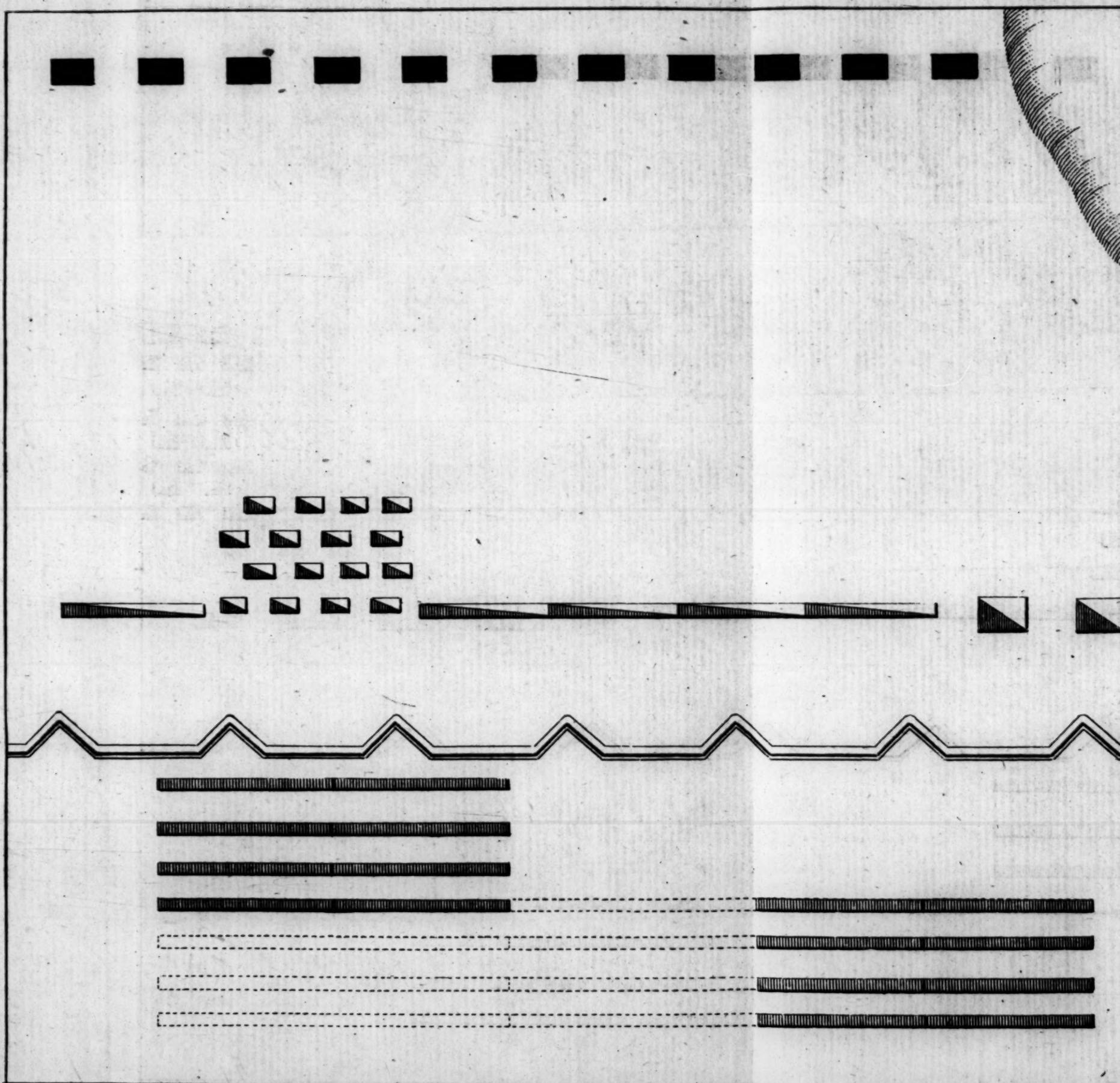
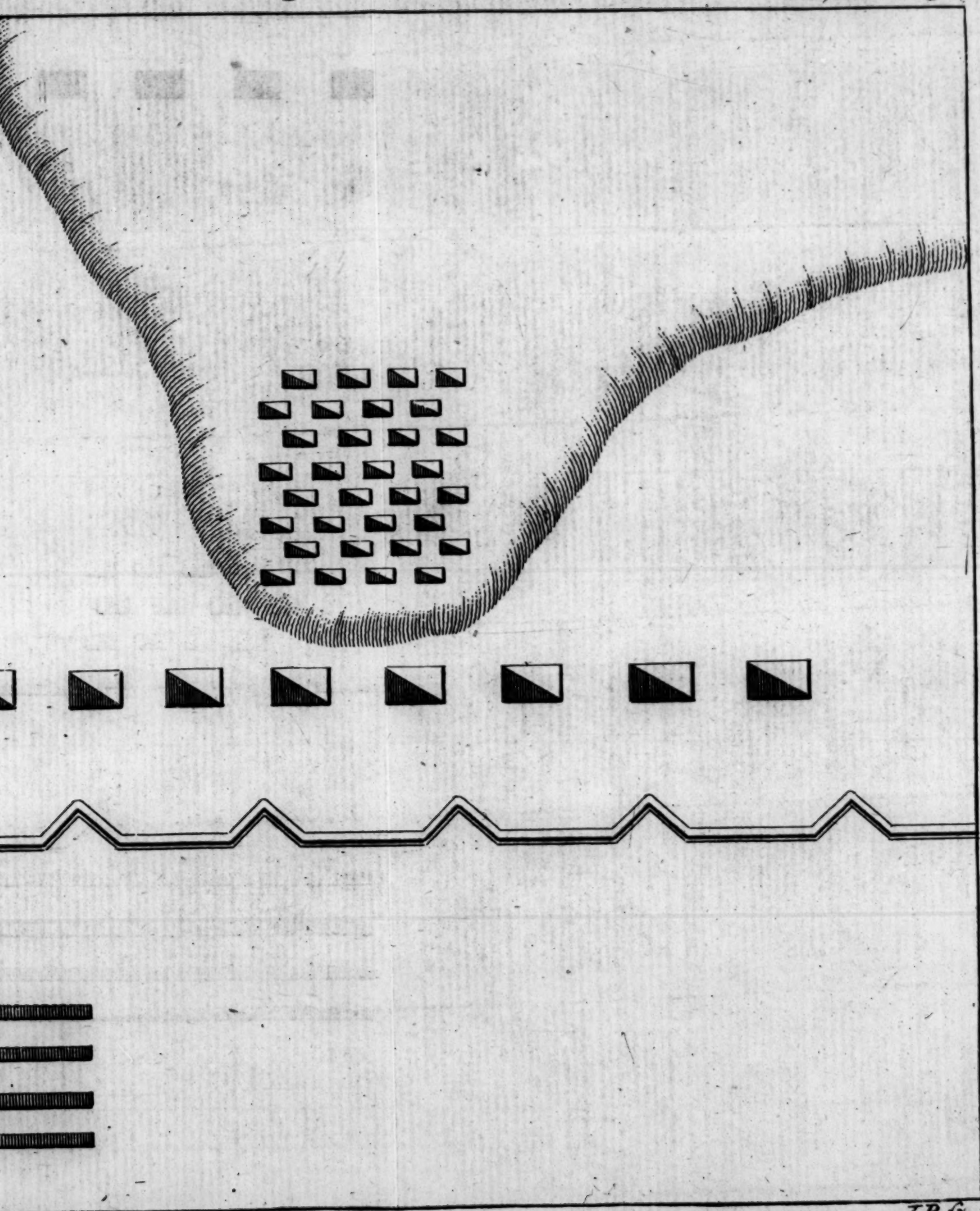


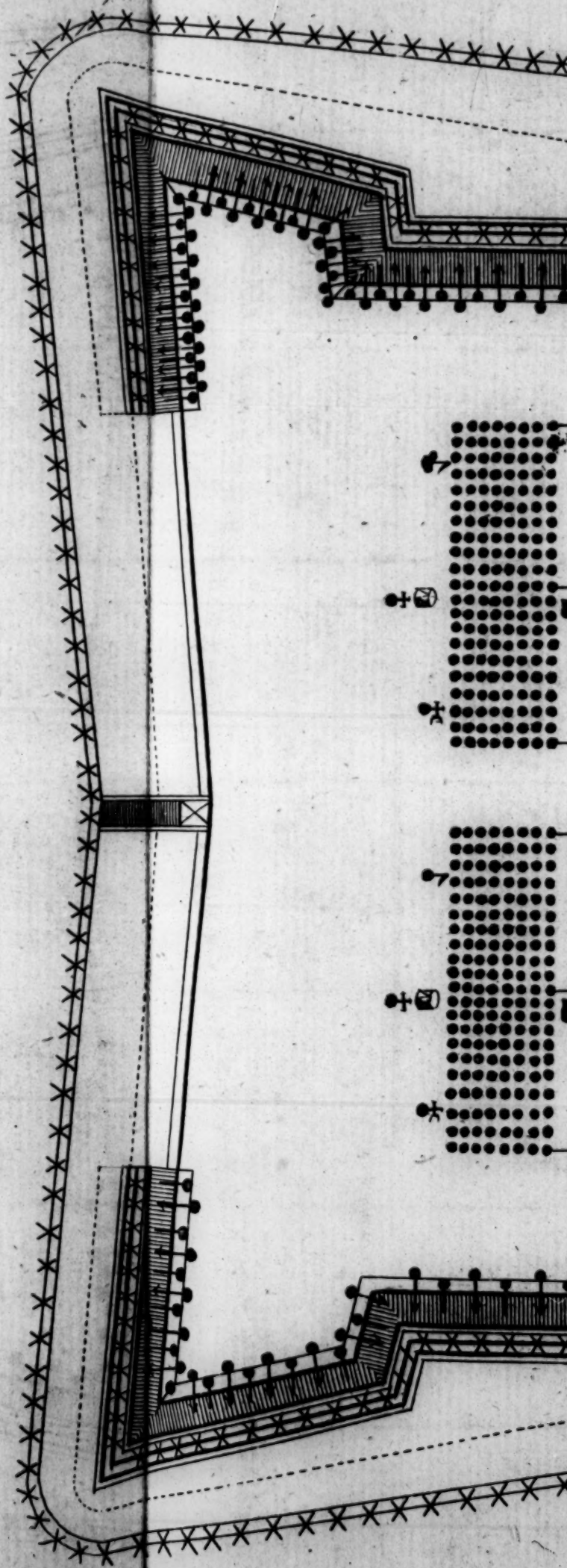
Plate 38.



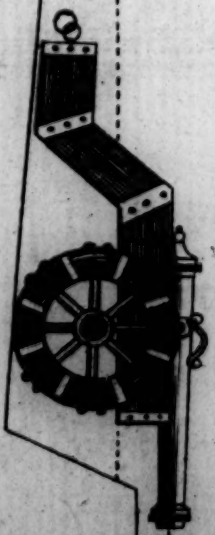
L.B. jr.







1 2 3 4 5 6
12
18 Toises.



1 2 3 4 5 6
2 3 4 5 6
6 Toises.

